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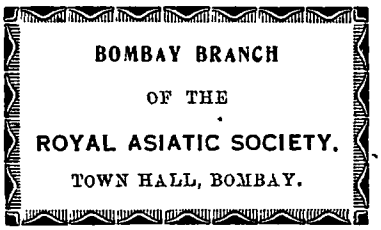

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1 Report of the Ports (Technical) Committee

2 Report of the Post-war Sub-Committee of the Insurance Advisory Committee

3 Report of the Indian Delegation on Co-operative farming in Palestine.

4 Report of the Reconstruction policy Sub Committee on Shipping

5 Report of The American Technical mission to India.

6 Report of the Indian delegation to the United Nations Monetary & Financial Conference at Bretton Woods

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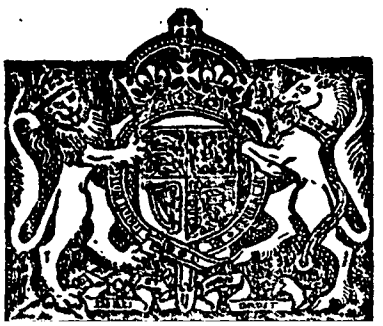

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REPORT

OF THE

PORTS (TECHNICAL) COMMITTEE

NEW DELHI.

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WAR TRANSPORT DEPARTMENT

RESOLUTION

New Delhi, the 16th January 1946

No. 19-P(94)/44.—In pursuance of a recommendation made at the meeting of the Policy Committee on Transport held on the 30th October 1945 in New Delhi, and in agreement with the Governments of the maritime provinces, the Governor-General-in-Council is pleased to constitute a technical committee with the following terms of reference :—

(*a*) Whether a sheltered deep-sea port on the East coast of India for the accommodation of ships of large size and tonnage at all seasons of the year is required, whether construction is feasible and if so where ; also what measures are necessary for establishing it ;

(*b*) whether there is justification for the conversion of any minor ports on the coast of India to major ports, if so, whether such conversion is practicable ; also whether there are any other projects for construction of major ports which ought to be considered ;

(*c*) what steps are necessary to develop minor ports in order to meet probable demands of coastal shipping traffic.

2. The composition of the committee will be as follows :—

(1) Sir Godfrey Armstrong, O.B.E., War Transport Department, Government of India, Chairman.

(2) L. W. Balcombe, Esquire, Chairman, Calcutta Liners Conference.

(3) M. A. Master, Esquire, Scindia Steam Navigation Company, Bombay.

(4) D. P. Khaitan, Esquire, nominated by the Federation of Indian Chambers of Commerce and Industry.

(5) M. H. Gazdar, Esquire, nominated by the Federation of Muslim Chambers of Commerce and Industry.

(6) J. R. Galloway, Esquire, nominated by the Associated Chambers of Commerce.

(7) A. Webster, Esquire, C.I.E., Chief Engineer, Calcutta Port Commissioners.

3. The committee will have power to co-opt additional members for consultation and advice as it thinks fit.

4. The committee will be known as the Ports (Technical) Committee and is requested to submit its recommendations to Government within a period of four months from this date.

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4 . Contrast with West Coast.
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6 & 7 . Scheme of Improvement.
8 . View of the Future.
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Introduction

1. Before we proceed with our task we deem it our duty to make one or two general observations. Our terms of reference do not ask us to consider the needs of the whole of India and to recommend the adoption of a port policy which may be most beneficial in the interests of the country. But the economic indivisibility of British India and Indian States, the increasing requirements of their rapidly expanding agriculture and industries, the desirability of the dispersal of industries, the integration and implementation of a comprehensive, well-balanced and efficient policy of transport, and its effective development in all its forms, the routing of trade through ports without being influenced by Customs Policy, the need for a long view in the siting of new ports and the development of existing ones, the evolution of a sound policy of defence for the whole country, the geographical position and importance of India in the Indian Ocean and the strategic importance of India in the development of a world order in the Far East, all these are considerations of vital importance in the establishment and development of suitable ports round the coasts of India and the formulation of an all-embracing and progressive port policy for this country. Our approach to the question which we have been asked to deal with has, we must confess, not escaped altogether the influence of these broad considerations.

The first question referred

2. The first term of reference to the Committee is as follows :—

> " Whether a sheltered deep-sea port on the East Coast of India for accommodation of ships of large size and tonnage at all seasons of the year is required ; whether construction is feasible and if so where ; also what measures are necessary for establishing it."

This term of reference was evidently based on para. 15(*a*) of the report of the Interdepartmental Port Development Committee in 1945 which reads as under :—

> " More deep-sea ports may be needed on the coast of India to meet anticipated expansion of trade, and in particular one of easy access to large ships on the East Coast, but the figures of expected trade do not by themselves justify more ports. "

Size and tonnage of ships to be considered

3. The Committee has first of all had to make up its mind what is the largest size and tonnage of ship that has to be considered, and has come to the conclusion that the deepest draft that need be provided for is 30 feet and the greatest length 600 feet. These dimensions exclude from consideration the larger passenger ships of the P. & O., Orient and Union Castle Lines ; in the view of the Committee such ships and even larger ones required for naval and military purposes such as aircraft carriers or transports cannot entirely be left out of account as will be seen later. But for ordinary everyday commercial purposes the ship of 30 feet draft and 600 feet length may be taken as the largest client of the eastern ports that ought to be catered for without serious restrictions, and for the entrance of larger ships certain limitations, as noted below against each port, may be regarded as reasonable. The fact that there is no port on the East Coast of India able to take ships of the Queen Mary class as do the ports of Southampton, Sidney and New York is a geographical fact and must be accepted as such and the further fact that there are certain specific limits to the entrance of ships of—let us say the Strath class—need not unduly disturb us. Our standard is the ship of 30 feet draft and 600 feet length and we would like to see at least one port on the East Coast capable of dealing with ships of this size throughout the year without any restrictions. At the same time we must bear the larger ships in mind.

Contrast with West Coast

"4. The West Coast of India is equipped with three large deep-sea ports or four, if we count Mormugao, the Portuguese port lying between Bombay and Cochin. All of these ports can accommodate without difficulty ships of 30 feet draft and 600 feet in length. Bombay and Karachi can take even very much larger ships, but, whereas the West Coast of India is thus laid well open to the world's shipping, the ports on the East Coast are limited and difficult and it is this handicap of the Eastern ports that was felt so seriously during the war and that has led to the reference made by Government to this Committee.

Madras Port

5. With the above standard of shipping before it the first port visited by the Committee was Madras. This harbour can accommodate large ships of the Strath and aircraft-carrier size, but cannot safely hold such ships in a cyclonic storm. Such storms are experienced from time to time in the period 15 October to 15 January and have to be taken account of. The shallow coastal shelf at Madras is narrow, ocean depths are comparatively close inshore and the seas that enter the harbour consist of deep translatory waves. During a cyclonic storm these set up a range in the harbour which on occasions breaks the ropes of ships and prevents them working at one or more quays, though not usually at moorings.

The Chairman of the Port Trust has in view a scheme for dealing with this range by means of a barrage or screen of bubbles of compressed air, what he calls " air break-waters ". The compressed air will be projected upwards through holes in a pipe lying across the floor of the harbour entrance and will, it is hoped, break the oceanic swell entering the harbour. We are told by the Chairman that he has made experiments on the above lines on a small scale with some success, but he considers it necessary that more experiments should be made. If these experiments prove quite successful in breaking the oceanic swell entering the harbour, as the Chairman of the Trust expects, even ships of 30 feet draft and almost any length (a 725 feet ship has lain alongside a quay inside the enclosed harbour) can use the port throughout the year and the term of reference is fully met so far as its direct question is concerned, the cost of the " air break-waters " having to be reckoned not in lakhs or crores of rupees, but in thousands only. This is an extremely interesting idea and may, it is hoped, prove a practicable one.

Scheme of Improvement

6. Madras was not very seriously affected during the war by the cyclone trouble and in this it was fortunate, but it was found to be far too small, its water area was not enough for the ships it was required to hold and its waterfront was seriously inadequate. The Port Trust Board has therefore under consideration a long-term scheme for increasing its ship quay capacity by excavating a wet-dock in the first place to accommodate four large ships and later, as trade may require, ten ships. It would protect the entrance to this dock with some form of " spending beach " and a sheltering arm so as to reduce the swell and enable ships to lie almost motionless within the dock.

7. The following extracts from a note written by the Chairman of the Port Trust fully explain the scheme :—

> " (*a*) The threat of sand drift closing the Harbour Entrance is no longer a formidable problem for the Board has taken steps to control the movement of sand by providing a dredging unit which will operate from the sand screen, and, it is hoped, will thus intercept the travel of drift well south of the entrance. Madras is a deep water sea port and can be kept as such ; it has a large estate made up of the south

accretion, and land earmarked for the construction of the Dock can be replaced by extending the Harbour premises further south (up to the River Cooum if necessary) provided other authorities interested in the land to be taken over show a sympathetic interest in the development of the Port and its facilities.

There is no insuperable engineering difficulty to overcome in providing a wet dock at Madras capable of taking two or more 600 feet vessels drawing 30 feet but there is a preliminary problem to solve first before a dock can be constructed which will allow ships to lie alongside throughout cyclonic storms which affect the Port by setting up deep wave action or range inside the Harbour.

* * * *

(*b*) ' Range ' is the chief disability from which this port suffers. By ' range ' I do not mean waves which are raised by wind action inside the Harbour and which may be three to four feet high but do not extend deep enough to move a laden ship ; I refer to those waves which are generated at sea and are propagated into the Harbour during a storm ; they only occur in a serious form when cyclonic storms are generated in the southern section of the Bay of Bengal and particularly when these storms travel north of the port ; on these occasions, two or more berths become untenable depending upon the severity of the storm and the turnround of shipping suffers in consequence. The reason why this problem has never been solved is because, during the years of peace, a delay of a few days to shipping although undesirable was not a matter of serious consequence and also because the reduction of range in a harbour to safe and convenient limits is not an exact science ; it involves the construction of ' spending beaches ' or wave traps which destroy the energy of translatory waves and which have to be carefully sited after experiments on models are carried out. Some years ago range readings were recorded at this port and the highest observations which did not take into account ' wind lop ' were as follows :—

(i) Across the entrance	2' 9"
(ii) At South Groyne	3' 6"
(iii) At North Groyne	2' 9"

Waves such as these are sufficient to render every berth in the Harbour untenable for they extend to the bottom of the Harbour. Usually at seaports exposed to wave action, the highest readings occur at the entrance and gradually become less owing (1) to the expansion or lengthening of the waves once they pass the entrance and (2) to the reaction of the still water inside the harbour. At Madras however, it will be observed that the highest readings occur at the South Groyne, the harbour entrance being in the North Groyne. The reason for this is that the harbour is bounded by four vertical walls, which is consistent with the necessity for providing quay accommodation but which helps to ' build up ' instead of decrease wave action. The south quay berths are, therefore, the first to go out of action (even before the East Quay which is nearer the entrance) and, if the storm is severe, the West Quays and North Quay follow owing to reflected wave action from the South Groyne.

(*c*) Range at this port could be reduced if short intercepting jetties were constructed along the inside of the eastern break-water to form wave traps and if the entire South Groyne, instead of taking the form of a vertical wall, were given a slope of say 1 in 4 to form what is known as a ' spending beach '. An extremely interesting example of a small ' spending beach " is the L.S.T. Hard near the west

end of the South Quay ; during the recent North-East monsoon when a storm passing north but well eastward of the port rendered most berths untenable to shipping, two L.S.Ts lay very comfortably at the Hard owing to the waves dissipating themselves up the Hard ; the tip of the Hard was not sufficiently deep nor was the Hard itself long enough to affect the ranging at the West Quay but it did reduce the height of waves immediately east and west of the Hard.

(*d*) Apart from the proposal to construct a wet dock, I have been interested in the reduction of range for some years but the war put a stop to experimental work I had in mind. Towards the latter half of November, 1945, however, when certain berths were untenable, the following experiment was carried out at the entrance to the Boat Basin which is 79 feet wide. A 2″ pipe punctured with 1/4″ holes at a pitch of 12″ was laid across the bed of the entrance ; both ends were blank flanged and through a 4″ pipe connected to the centre of the 2″ pipe, compressed air was pumped by a compressor. The air bubbles rose to the surface in the form of a curtain or screen and tended to destroy the energy of the waves in the line of the screen of bubbles ; the air was switched off and on several times and each time it was turned on, there was a perceptible difference in the ranging on the Boat Basin side of the pipeline. The idea was not mine. It was tried out in America some thirty years ago with, it was claimed, some success but to the best of my knowledge it has never been adopted in any of the Home or Empire Ports. There are difficulties to overcome such as keeping sand out of the line, barnacles from growing over and closing the holes but further experiments will be carried out next November to try and arrive at a correct appreciation of its worth.

I believe that, if wave traps are introduced on either side of the entrance to the proposed dock, it will be possible to provide a 100 feet entrance which could be fitted with gates, operable in all weather.

If the experiments with what I call an " air breakwater " are successful and are combined with wave traps, range can be reduced to safe limits ; in this case I would advocate increasing the entrance to 150 feet in the interests of manœuvrability of ships in and out of the dock and in order to avoid dock gates altogether which are very expensive to maintain.

I have laboured the subject of range intentionally for Sir Godfrey Armstrong has emphasised in his note that, if a dock is to be provided, it must be an all weather one, and to meet this demand it is essential to solve the problem of range at this port.

* * * * * *

(*e*) The best way of providing additional accommodation on a large scale is obviously to construct a wet dock on the south side of the harbour and to provide that dock with up-to-date facilities such as ample quay cranes, modern double storied transit sheds which will accelerate the rate cargo can be delivered and received and adequate stacking areas served by land tugs and trailers.

* * * * * *

(*f*) *Entrance Works.*—The first requisite must be to reduce range at the entrance to the new dock. To do this a guide pier 20′ wide and 600 feet long fitted with a wave trap is suggested on the east side of the entrance and a " spending beach " on the west side. The west side of the pier will be used for warping vessels into the dock after they have reversed in the outer Harbour. The entrance has been given as 150 feet in width which presupposes that some degree of success will be attained with the experiments to be carried out with an ' air breakwater '.

If the experiments are not successful, a sufficient reduction in range should be obtained by the wave traps on either side of the entrance to permit of dock gates being operated ; in this case, the entrance will be reduced to 100 feet.

* * * * * *

Estimated capacity of Port after extension.—The present maximum capacity of Madras Port has been estimated at something like 1,750,000 tons of dry cargo per annum. By constructing a wet dock capable of accommodating 10 vessels and with transit sheds designed on the lines very broadly outlined in this note, the capacity of the Port could be increased to between five and six million dry tons a year ".

* * * * * *

View of the Future

8. Madras is advantageously placed geographically, as the port is at the capital of a province and has particularly good rail and road connections radiating in all landward directions. The cost of such a dock is very great being estimated at 5½ crores for the whole scheme, which is divided into two stages. There are no indications that the trade is going to require full construction at an early stage. On the other hand, the future of the country visualises the rapid expansion of industries and agriculture, and the possibility of such an expansion and growth in the trade of the country as may double the needs of the port must not, therefore, be ruled out.

The margin now in hand for expansion of trade, based upon the difference between the estimated present port capacity and the highest previous annual tonnage of dry cargo handled, is only about 350,000 tons, and, if any considerable expansion of trade takes place in the south as a result of the large schemes of the provincial government for hydro-electric development and irrigation, and following the government policy of countrywide dispersal of industry, a need for more ship quays at Madras may well be felt in the course of the next ten years. The Madras Port extension scheme is divided into two stages and meantime we need consider only the first stage, which provides a dock with four additional quay-berths at an estimated cost of about 3½ crores. Heavy construction work, such as is involved by this project, will probably take five years to complete, and, as it is advisable to carry out such work before the demand arises and the port capacity is strained, the Committee recommends that early consideration be given to Stage I of the Madras Harbour Extension Scheme which would increase the capacity of the port to a figure of about 2¾ million tons of dry cargo per year.

Vizagapatam

9. The Committee next visited Vizagapatam and inspected the port. Here the particular physical feature that limits the size of ships is the entrance channel which cannot be relied on always to take ships exceeding 28 feet in depth and cannot always safely pass a ship exceeding 570 feet in length. The Committee, therefore, put to the General Manager of the Bengal Nagpur Railway, which now operates the port, the question whether the entrance could be improved to take ships of 30 feet draft and 650 feet in length at all times and received the reply that this could be achieved at a cost of Rs. 13 lakhs and further that, if the future could be content with ships of 30 feet draft and 600 feet length, it could secure this at a probable cost of only six lakhs of rupees. This latter figure is a very small expenditure when it is considered that it enables the port to take at all seasons of the year ships of the largest size that the Committee thinks will normally visit there. At the same time it does not provide for the larger type of aircraft carrier or transport that naval or military requirements might sometimes demand, and the Committee, therefore, hesitates to say that it is completely satisfied on this point in view of the considerations dealt with in paragraph 24 below. Moreover it was also pointed out to us that it was safer from the practical point of view to carry out the scheme in full at one and the same time and incur the whole expenditure. We would, therefore, strongly recommend that the expenditure of Rs. 13,00,000 be faced and the entrance be made suitable for ships of 30′ draft and 650′ in length.

Past History and General Design

10. It is desirable, before going further, to give a very brief account of the history of this port and its intended place among the Indian harbours. Inside the short entrance channel formed between the high bluff of the Dolphin's Nose on the south and the city of Vizagapatam with its small hills on the north lies an extensive basin, eminently fitted for a large harbour. Some twenty years ago the port was converted from a small and comparatively unimportant calling place for ships into a major port by dredging and reclamation works and construction of a few quays and other port works and was left to attract trade to make itself a successful commercial enterprise. Later the Raipur-Vizianagaram Line was opened to connect the new venture with the Central Provinces which is the area to be served by it. But during the last twelve years since its completion trade to the extent anticipated has not materialised, dredging has been a heavier expense than was hoped would be the case and in fact the port has not been a financial success. We were told that the Railway rate policy has also been responsible for preventing the cargo from the hinterland moving to the port. Although we have not been able to examine the extent of the justification of this allegation, we have no doubt that a well-thought-out Railway rate policy would have drawn a larger volume of traffic to this port and would have thus strengthened its ability to balance its budgets in the past.

The war has not helped very much since, though additional facilities have been provided, the steady trade development has been interrupted and military traffic has not been sufficiently heavy to form an adequate substitute for it. This year Government have decided to hand over the port for operation and administration by the Bengal Nagpur Railway and it has become to all intents and purposes a Railway Port.

The Theory of the Paying Port

11. At first sight it would appear unsound in principle to construct a new port which, while it cannot be itself a paying proposition, might have the effect of diverting trade from other ports thus forcing those ports to raise their dues to make up for reduction in tonnage.

It is, however, difficult to say when a port is a paying proposition. So far as the major ports in British India are concerned, they balance their budgets by raising the dues on vessels and charges on goods. We have no data to guide us as to the relevant burdens which ports in British India and Indian States impose on shipping and on trade. Without taking these relevant facts into consideration it would be difficult to examine and enunciate the theory of a paying port. It has been contended that the ports in Indian States have been able to put comparatively light burdens on shipping and trade, because these ports are financed from the general revenues of the State. The policy of arriving at a balanced budget by taking the receipts from the ports and railways together as against the aggregate expenditure on the ports and railways has been called into question. It should not, however, be forgotten that large ports in British India have been able to balance their budgets after bringing into the common pool their large incomes from such sources as land, buildings and railways. Without the inclusion of incomes from such sources in the general revenues of the port some of the ports would show a considerable deficit. It is very difficult to say that such ports, under such circumstances, are really paying ports. These aspects of the revenue of a port should merit the weight they deserve in enunciating the policy of a paying port. As the position stands today there is no data before the Committee to determine in the light of the above observations whether the major ports in British India and the ports in the Indian States are really paying propositions.

Apart from the difficulty of deciding whether a particular port is a paying port or not, the effect of diverting trade from one port to another will inevitably compel the port from which cargo is diverted to raise its charges all round and consequently be a deterrent to the development of trade at that port.

But there are cases in which a port of this description can be recommended :—

firstly when a long-term policy demands the opening of a new harbour which is required for development of an area and cannot possibly pay till that area is developed and secondly for strategic reasons in the interests of the country's defence and world-position.

General reasons for developing the Port of Vizagapatam

12. The Committee is of opinion that, on the grounds of defence and strategic requirements of the country and the industrial, agricultural and economic development which is sure to take place in the near future and also in view of the need for wider dispersal of port capacity throughout the country, a deep sea port where ships could safely enter at all times of the year and in all weathers is a great necessity. In the broad national interest of the country and to facilitate rapid expansion it is essential that railway developments should take place connected with such a port so that the hinterland lying behind it can be fully developed. The port should essentially be connected in all directions by a number of railways. It is the opinion of the Committee that the establishment or development of the port should precede the development of the hinterland for which there may be reasonable possibilities so that it may be available for traffic as it grows and demands an outlet. The port should give facilities for the entrance of ships of such length and such draft as may be visualised in the near future, and the Committee has expressed its opinion on the subject in para. 3 above.

It is also desirable that the port should be centrally situated on the East coast and, in view of all the factors mentioned above, the Committee feels that Vizagapatam would be a suitable port for such development, the more so because the Railway Board have already planned out an extensive railway net work in the hinterland.

In view of the above paragraph, the Government of India should give financial and technical assistance, particularly in the early stages, in order that the necessary development in the Port may be carried out and the port charges may not be kept at a high level.

The Committee is fully conscious of the fact that the development of this port may have the effect of diverting cargo from the existing major ports. It may be that a greater burden will fall on the trade passing through the ports from which cargo has been diverted. The Committee would, however, contend that in view of the economic development that is being planned both by the Central and Provincial Governments, this burden may be only temporary because the increased volume of the import and the export trade resulting from the country's development will become a great balancing factor in this matter. Further, even if there should be some diversion of trade or some reduction in the volume of the traffic at the existing ports with consequential increased charges which the trade will have to bear, the Committee is of the considered opinion that in the large national interest of India, Vizagapatam should be developed.

Scheme of Improvement

13. At Vizagapatam in the war period the limitation was, not the entrance channel, but the lack of quays and waterspace in the harbour. There were only three regular cargo quays in operation and the Army would have liked many more. Vizagapatam is, however, potentially a very large port ; it only suffers from youth. There is no physical difficulty to be met in enlarging the port so as to take 20 ships or more when traffic demands them. While geographically the port is well placed, the country behind it is poorly developed. Much money has, however, been spent on Vizagapatam and if an adequate return is ever to be obtained more must follow. That is an argument for increasing facilities in advance of trade, and taking this view the General Manager recommends works being undertaken in the following order :—

One new quay	2½ lakhs short term work.
Oil and coal quays	16 lakhs long term scheme.
Graving dock	60 lakhs long term scheme
Improvement of entrance . . .	13 lakhs long term scheme

Information offered by the Industrial Adviser to the Government of India

14. The following works are planned in the area that may be expected to use Vizagapatam as its principal port :—

(*a*) A steel works is projected at Raipur and is likely to be opened up within the next five years ; capacity 400,000 tons a year or nearly half that of Tatas.

(*b*) Possibly steel works in the Godavari basin at a place called Ramapadasagar to be supplied with ore from iron deposits in Bastar State. This project is being pressed by the Hyderabad State but is, for the present at least. highly problematical.

(*c*) *Machkund* (*Duduma*) *Hydro-Electric Scheme.*—This is on the Madras Orissa border and the scheme will be worked jointly between the Provincial Governments. It is scheme No. 116 in the Madras Post-War Development book and is expected ultimately to provide 103,500 KW of electric energy. The first stage which will provide roughly one-third of the ultimate capacity is estimated to take five years and the whole scheme could be completed in about ten years. But as it is considered unlikely that the ultimate capacity will be fully required for about twenty years, the scheme may not be finally completed for fifteen to twenty years. It is understood that power will be taken up by the two Provinces in the proportions of 70 per cent by Madras and 30 per cent by Orissa. So far as Madras is concerned, the scheme is expected to serve the Vizagapatam, Godavari, Kistna and Guntur Districts. The same scheme appears as Scheme No. 43 in the Government of Orissa Post-War Reconstruction and Development book under the name of the Hydro-Electric Scheme at Duduma.

The scheme will furnish cheap electricity to parts of Orissa and facilitate the establishment of industries such as the manufacture of aluminium, paper, cement, dry ice, etc.

The Industrial Adviser emphasised that, if Vizagapatam is to be the port for all or any of above schemes, it should be ready to cope with the imports of machinery, etc., required by the time the schemes are begun.

The Graving Dock

15. (*a*) A most important activity at the port to-day is the shipbuilding yard of the Scindia Company. This undertaking is not yet in full operation but the Committee members who visited it are greatly impressed with its size, its lay-out, its potentialities and its general air of efficiency. This is not the place to describe it in detail but the Committee is interested in it from the view-point of another proposed facility of the port, a graving dock which is expected to cost about Rs. 60 lakhs. This is a proposal of importance and the Committee gave it careful consideration.

(*b*) The points for and against it are set out below :—

Points against—

1. Cost of Rs. 60 lakhs.
2. Non-remunerative.
3. Foreign ships tend to dry-dock in their own countries.
4. Vizagapatam not at present nor in any future that can be certainly foreseen a terminal port, that is, ships do not usually end or begin their voyage there.
5. Until trade develops not a very large number of ships will call there.
6. So far as general shipping lines are concerned the graving dock can very well wait till trade develops. The dock should only take two years to build.

7. In the ordinary way ships will not normally dry-dock in the course of a voyage; they will wait till the end.

8. Vizagapatam is already a deficit port; it is contended that trade should pay for the dry-dock.

(c) *Points for—*

1. Vizagapatam must be given every encouragement to become a thoroughly well-equipped port or it cannot pay.

2. With the large volume of the exports of cotton, coal and steel which are visualised in the future, there is every possibility of the port becoming a terminal port.

3. The existence there of a good dry dock may bring ships to the port.

4. A dry dock is a very usual feature of an up-to-date port. Dry docks are not usually by themselves a paying proposition. It is not on the consideration of the return on the investment on the dry docks that dry dock facility is provided by ports. It is an essential need of shipping and every modern port considers it its vital responsibility to provide such a facility for shipping.

5. Accidents to ships happen in the Bay of Bengal demanding the services of a dry-dock.

6. Ship-building requires the proximity of a dry dock, and the nearer the better.

7. The shipyard at Vizagapatam is a strikingly fine undertaking and deserves every encouragement.

8. Though normally port undertakings are better supported on economic grounds the economist has not always the last word.

9. The Navy are likely to welcome the graving dock for their ships.

10. The placing of a dock at Vizagapatam is sound geographically.

11. The existence of a well-designed and equipped shipyard will ensure the presence of repair-facilities, technical staff and organisation required for a dry-dock.

(d) The Committee has tried to weigh fairly the points for and against the immediate construction of a dry-dock at Vizagapatam and their conclusion is in favour of it. At present Government have stopped half-way at this port. They have sunk large sums in the commercial port. The Scindia Co. has laid down a very fine ship-building yard which is the only one of its class in India and, as it is the country's policy to build up a substantial mercantile marine, every encouragement should be given to this industry. The possibilities of a naval base cannot be disregarded nor the strategical value of the harbour. To make it into a fine up-to-date harbour for ships, which it is potentially now, more expenditure must be faced and the future must be pledged.

Decision to build

(e) The General Manager of the Bengal Nagpur Railway, with whom the Committee had a discussion on the subject, favours the building of this Dock by Government as a normal port facility and also as an encouragement to the general trade of the port. He would like to see it taken in hand at the same time as other port improvements he has recommended and even before the widening of the entrance is proceeded with. Admittedly a graving dock is not in itself a remunerative facility; even the dry-docks at Calcutta probably do not obtain a full return on the capital expended on them. But at Vizagapatam the dock may prove of the greatest help to the Navy, to the Ship-building-yard and to the port in general. It may be contended that there is little to be said for sinking more capital in a port already unable to pay interest on its present capital expenditure, but the point is that, unless the harbour develops, as geographically it can without difficulty, into a really first class

port, Government can never get any return on its capital, whereas the existence of a modern graving-dock must at least tend to encourage ships to visit Vizagapatam and so help to bring to fruition the original hopes on which the whole harbour scheme was started.

Conclusion

16. In conclusion the Committee strongly recommends that Vizagapatam on the East C ast should be developed as a sheltered deep sea port which can accommodate ships at least up to 650 feet in length and with drafts up to 30 feet.

For this purpose the Committee strongly recommends that the improvement at the entrance, the expansion of the quays, the building of a dry dock and the provision of other facilities mentioned in the Report, should be immediately taken in hand and the finance required for the execution of the whole project should be found by the Government of India.

The Committee suggests that with the further development of the Vizagapatam harbour and the railway system leading thereto, a proper future lay-out of the city of Vizagapatam with Waltair is called for.

Possible Port between Calcutta and Vizagapatam

17. The recommendation of the Committee for the development of Vizagapatam has not made it necessary for it to examine the possibility of the establishment of another sheltered deep sea port between Vizagapatam and Calcutta, but the Committee feels that the Government should investigate such a possibility in due course.

Calcutta

18. Calcutta is by far the largest port in India so far as the tonnage handled is concerned. That is because of its enormous coal traffic, its jute, pig iron and tea. In value of trade the comparisons are entirely different but we are not concerned with the question of which city handles the more valuable trade. A port is principally concerned with the weight and bulk of the commodities it has to handle and the Committee calculates the work of Calcutta Port on this basis.

Yet, Calcutta, owing to the difficulties of the Hooghly channels, can frequently only accept ships of 26 feet draft and can only on rare occasions receive ships of 30 ft. draft. The following statements show the outward drafts available during the year 1938 which may be taken as an average pre-war year and the outward and inward drafts for 1945 which was a bad year owing to shortage and deterioration of dredging plant and also a change in dredging policy to permit a large number of medium draft ships to arrive and depart from the port on any day throughout the year.

With an adequate fleet of serviceable dredgers and the maintenance of freshet discharge into the river headworks, it will be possible to restore the navigable channels to the 1938 standards, but it is doubtful if by these means alone it will be possible to provide for drafts of 24 feet on any day of year and 30 feet on any spring tide.

Outward

1938	Maximum	Minimum	No. of days below 26 ft.
January	20′ 9″	24′ 3″	9
February	28′ 6″	24′	10
March	28′ 3″	24′	8
April	28′ 3″	24′ 6″	8
May	29′	26′	Nil
June	29′ 3″	26′ 3″	,,
July	30′	26′	,,
August	30′	26′	,,
September	29′ 3″	22′ 6″	12
October	29′ 3″	24′	11
November	29′ 6″	24′ 6″	6
December	28′ 6″	24′ 3″	10

1945	*Outward*		*Inward*	
	Maximum	Minimum	Maximum	Minimum
January	25′	22′ 6″	25′	22′ 6″
February	26′	22′	25′ 6″	22′
March	26′ 6″	21′ 3″	26′ 3″	22′ 6″
April	27′	22′ 6″	27′	22′ 6″
May	26′ 6″	22′ 6″	27′ 6″	23′
June	26′ 6″	23′	27′	23′ 6″
July	27′	23′	27′ 6″	24′
August	29′	24′	29′	24′ 6″
September	28′ 6″	23′ 3″	29′	23′ 6″
October	28′ 6″	23′ 6″	29′	24′
November	27′ 6″	23′	28′ 6″	23′
December	27′	22′ 6″	27′ 3″	23′ 6″

This must be regarded as a serious handicap in a port of such importance and proved to be the most serious limiting factor during the war. The possibility of removing or at least very materially reducing it is now receiving the earnest attention of the Port Commissioners. A scheme is under consideration for building a ship canal from the Docks to Diamond Harbour 42 miles down the River. The canal projected is to be 25 miles long and to cut out 42 miles of river thus making a saving in distance of 17 miles to ships and incidentally the avoidance of the most dangerous section of the Hooghly River passage.

Proposed Ship Canal

19. The case for the canal is given in the following terms by the Chairman of the Port Commissioners :—

" 1. A ship canal will give the following positive and immediate advantages :—

(*a*) The most difficult part of the navigation of the Hooghly is between Diamond Harbour and Calcutta and this part will be avoided. Navigation between Sandheads and Diamond Harbour is comparatively easy and the pilotage can be entrusted to a smaller and less highly specialised service than the Bengal Pilot Service. Ships will need to be piloted through the canal but the work will be simple compared with pilotage on the Hooghly. A reduction will also be possible in the number of Assistant Harbour Masters. No ship loading and discharging in the Docks will go out into the River at Calcutta, but some Assistant Harbour Masters must be retained to transport ships from the existing dock locks to the Calcutta or Garden Reach Jetties or moorings in the stream.

(*b*) There will be a great reduction on the amount of dredging to be done. The Commissioners now maintain three large suction dredgers for the maintenance of the navigable channels and these dredgers are practically solely employed on bars between Garden Reach and Diamond Harbour. Very occasionally a dredger has been tried in the Lower Reaches for short periods but the total amount of time thus spent is negligible and there is no doubt that three suction dredgers are needed to maintain the Upper Reaches at the present standard. The ship canal will probably obviate the need for any dredging in the River between Diamond Harbour and Garden Reach. With the cessation of dredging there is no reason to expect that conditions will not return to those prevailing before 1906 when dredging was begun. The depths on the bars then fluctuated greatly but there were no changes in the general regime of the River. It may possibly be considered inadvisable to leave the Port without a single suction dredger because, if there is no dredging, it is conceivable that siltation at certain places may continue to such an extent as to affect the

regime. The chances of this happening are however so remote that I think it can correctly be said that the Commissioners will be saved three suction dredgers.

2. Apart from the above positive and immediate advantages of a ship canal there are the following possible future advantages :—

(*a*) The problem of increasing the available depths to vessels will be a much more limited one than it is now. The ship canal will of course mean that no bar above Diamond Harbour can affect the drafts of ships but since dredging was undertaken on its present scale conditions below Diamond Harbour have during the major part of every year controlled drafts. The Balari Bar is now the worst bar below Diamond Harbour and this bar might possibly be improved by dredging, but at other times other bars which could not be dredged have been the controlling factors. A permanent increase of permissible drafts cannot therefore be obtained by dredging and the only way of obtaining one is by river training works. Under present conditions river training works would be required from Calcutta to Sandheads but with the ship canal they will only be required below Diamond Harbour. Such wide changes take place in the position of the channel at the mouth of river that it is difficult to imagine any training works which would give a permanent improvement but this is a matter on which expert opinion will have to be taken. It is quite possible that experts will regard as more feasible the construction of training works to maintain the Rangafula channel above Saugor Island and to improve Channel Creek and the Baratola River which is narrow and in its lower reaches give a permanently deep passage to the sea. The desirability of developing this passage was advocated by Mr. Oag, Deputy River Surveyor, in a report which he recently wrote.

(*b*) The construction of the ship canal will enable the Port to be economically expanded to any extent which may become necessary. It will be a simple matter and comparatively cheap to provide docks off the canal and to obtain all the advantages of concentrated development. It is true that even now we can by developing King George's Dock to its maximum extent and reconstructing the Calcutta Jetties provide for the handling of more than double the maximum traffic we have ever been required to handle in the past, but the next step beyond that would be the removal of coal shipping from Kidderpore Docks to riverside berths at, say, Ulubaria. This step would enable more general produce berths to be constructed in Kidderpore Docks if the single lock entrance was considered adequate to bear the extra strain, but this would be the limit to economic expansion. It may now seem inconceivable that the Port will ever be required to handle more than double the maximum pre-war traffic but seventy years ago the idea of a total seaborne traffic of over ten million tons would probably have appeared fantastic. In this connection I may mention that the possibility of a big increase in traffic is an additional argument in favour of the ship canal because there is a limit to the number of ships which can move at one time in the Upper Reaches.

The cost of the canal is estimated roughly at Rs. 15 crores. Assuming that the money can be borrowed at 3 per cent and the loans are to be redeemed in 60 years the annual expenditure in interest and sinking fund charges would be Rs. 54 lakhs. It is estimated that the nett savings in revenue expenditure on account of the ship canal plus the interest and sinking fund charges on some capital expenditure which will be avoided may amount to between Rs. 22 and Rs. 25 lakhs a year ; taking the latter figure the nett increase in the annual revenue expenditure of Calcutta Port will be Rs. 31 lakhs."

Other Improvements

20. Apart from the ship-canal Calcutta has large schemes of dock development which cover an increase in the size of King George's Dock, new mechanical coal shipping plant and better laid out railway yards. These improvements will be undertaken whether the coal is built or not as is indicated in para. 2 (*b*) of the Chairman's note. The construction of the canal will, however, alter the proposed dock lay-out, and a decision on the canal is desirable before the Commissioners' dock improvement schemes are implemented.

Conclusion

21. As regards the proposals for a Ship Canal scheme and River Training work as suggested by the Chairman of the Calcutta Port Commissioners, the Committee feels that it cannot, on the data available before it, say that those proposals are financially sound or will effectively attain the object which they have in view. The Committee would, however, welcome the fullest and the earliest investigations of the improvements to the navigable approaches to the Port of Calcutta and the drawing up of a scheme for that purpose which would, without permanently affecting deep sea navigation in the Upper and Lower reaches of the Hooghly, provide facilities for steamers with deeper drafts to navigate to and from Calcutta at all times. The Committee therefore, suggests that the technical, financial and other relevant aspects of this or any other scheme, with particular reference to its permanent repercussions on the Upper and Lower reaches of the Hooghly, should be fully examined by experts. And in connection with the proposed extensions of King George's Dock the effect of the policy of dispersal of industries on the volume of traffic that will flow through the port in future should be fully gone into.

Cocanada

22. The only additional deep seaport on the East Coast which the Committee has considered is that at Cocanada, but the possibility of making Cocanada into a deep-sea port is somewhat nebulous and is, therefore, not considered under this term of reference but is taken later in the report in para. 60 under the 2nd term of reference which asks whether any minor port on the coast of India may justifiably be converted into a major one. It is explained in that paragraph that the suggestion to change the character of Cocanada is as yet at too early stage for the Committee to include it under this first term, as conceivably it may prove to be an engineering impossibility.

Conclusion of First Term of Reference

23. (*a*) Looking back at the above paragraphs readers of this report must inevitably feel that the Committee has not taken quite such a coldly economic view of the eastern port position as might have been expected of business and professional men planning a profitable course of business advancement for Government. But what the Committee has recommended are long term works. They cannot be expected to start full repayment of money spent from the day they are finished and brought into use. This is not expected of a long term work. The question is not whether these projects will immediately start paying for themselves, but whether they are considered necessary and desirable in the ultimate interests of the country as a whole.

(*b*) Any large expansion of trade and industry in South India will strain the Port of Madras unless the port and city are prepared to surrender their position and new trade to the Port of Cochin, even that pertaining to the Madras hinterland. Vizagapatam can never succeed till it is developed into a first class modern harbour, and the community cannot afford to write off its hopes of it becoming one. Again, Calcutta as the largest port in a country committed to economic expansion and providing the natural outlet for so many commodities suffers from physical disadvantage to an extent probably not experienced by any other port of its size and importance in

the world. Improvements of the natural approaches are, therefore, called for and without them Calcutta will continue to bewail the Hooghly river with its tidal bores and sand banks and its restriction on the size of ships.

(c) There may be a stage in every large undertaking when financial considerations are not the only or even the main ones. The value of a port is not solely to be reckoned in terms of economic integrity, and the financial side, though of the highest importance, is not always paramount. Judgment of a port is not made on the basis of a few months or even of a few years' work. It is based, rather, on the service a port renders through decades and centuries, and we must look far ahead in determining the best course of expansion.

Strategic Aspect

24. Finally we must regard the strategic aspect of the East Coast ports. We are not looking for the next war, heaven forbid, but we should be foolish to forget or disregard the warnings of the recent one. The Hooghly was a severe handicap to the military use of Calcutta, and constantly ships with heavy cargoes had to be lightened elsewhere before they could sail up to the port. No extension to the King George's Dock and no other port improvements can really make up for the limitations imposed by the River.

Vizagapatam was much under-developed. More quays, more water-space were required for the military cargoes that could have been handled there. The Navy could also have enjoyed sheltered water facilities if the port had been more extensively developed.

Madras was seriously overtaxed through the lack of protected water-space for ships and water-front for the handling of cargoes.

The demands of strategy should not be neglected and forgotton just because the war has ended, and Government may very well take to heart the lessons of the last five years. Though we are not thinking of war, but are making plans to meet peaceful expansion of trade, yet we feel that, where inadequacies were so strongly felt in wartime, the shoe may also be felt to pinch in future days of peace. This is not merely a comercial question of recommending works which will pay for themselves in due course; as already stated they are unlikely to do so for many years. Further, the ports cannot finance the big works they propose, at any rate, not entirely. It is the committee's opinion that Government should come to their aid, if only as a form of insurance against future demands both of commerce and strategy.

25. The Committee's second term of reference reads as under :—

> " Whether there is justification for the conversion of any minor ports on the coast of India to major ports, if so whether such conversion is practicable; also whether there are any other projects for construction of major ports which ought to be considered ".

Major and Minor Ports

The distinction drawn between a ' major ' and a ' minor ' port is not mathematical. If it were merely a matter of size or quantity of trade, Calicut, carrying 600,000 tons of cargo in a year, would have been a major port before Chittagong. It is arbitrary. When a minor port by reason of size or for other reason is taken under the financial control of the Central Government it is called a ' major ' port, and the major ports are Karachi, Bombay, Cochin, Madras, Vizagapatam, Calcutta and Chittagong. All the others are called minor ports, even Bhavnagar with 300,000 tons of cargo a year and Tuticorin with 500,000 tons and these come under the Provincial or State budgets. Whether it is a good distinction or not the Committee is not fully qualified to say.

For all practical purposes, however, the distinction between a major and a minor port is generally understood. The sheltered nature of a port, the well laid-out approach channels, the provision of docks, jetties and moorings, the well laid-out transit sheds, the effective railway connections, the ability to serve a very large portion of

the hinterland lying behind the port, the facilities for meeting the requirements of defence and strategy, the comparatively large volume of traffic and the possibilities of working for shipping all the year round, usually distinguish the major from a minor port.

The ports in the Indian States do not come under the control either of the Central Government or the Provincial Governments. They are developed and managed by the Rulers of the States. The same considerations which we may apply in respect of the ports of British India may be equally applied, in the broader interests of India as a whole, to the ports in the Indian States.

26. The Committee's approach to its second term of reference can be best made through the ports of Kathiawar and the Indian States as the more difficult problems come from there.

The projects at Rameswaram and Cocanada can be separately dealt with.

Place of State Port Projects in Indian Trade

27. Viewed from the all-India angle, the Sika, Veraval, Bhatkal and Vizhinjam projects have this in common, that they are the off-spring not of the Central Government nor of a Provincial Government but of Indian States, though as will be explained in its proper place, Bhatkal actually lies within the Bombay province. In considering these projects the Committee has, therefore, borne in mind that the individual States interested may conceivably go ahead with their projects just as major ports in British India, for instance, Bombay and Calcutta have done or may be doing for reasons other than those which appeal principally to the Committee, to wit, economic reasons.

The Committee regards economic India as one geographical entity and is not interested primarily in the ambitions or prosperity of individual States or of individual ports in British India. It should not, therefore, be found fault with on the grounds that it takes a detached view of the three proposals; the new port of Sika in Kathiawar (Jamnagar State), the development of the minor port of Bhatkal on the West Coast, frankly intended for the use of the State of Mysore and the proposed sheltered anchorage at Vizhinjam on the coast of Travancore. The Committee asks itself the question not whether the particular project is of advantage to Jamnagar State or to Mysore or to Travancore as the case may be, but whether it fits in with an all-India scheme of economic development and progress; though it may be in an Indian State or in British India. As often happens, the answer in each case is not a clear affirmative nor a flat negative, but the Committee in its approach to each one of these projects has tried to keep before its eye the yard-stick by which all such planning, whether it is in the Indian States or in British India, should be measured, that is, its service to the country as a whole. Judging from that point of view, the Committee feels a major port in the Gulf of Cutch between Karachi and Bombay is a necessity and considers in view of all the data that was placed before it that the Sika Scheme is a promising one.

The Problem of Customs Revenue

28. It seems to the Committees uneconomic that the country's port policy, *i.e.* the siting of ports and their development, should in any way be affected by the claims of all-India Customs Revenue. Yet this question of Customs has loomed large in the history of Cochin, a major port, also in that of the Kathiawar ports, and will undoubtedly be brought to the front if the little harbour of Bhatkal materialises as a port for overseas trade. A settlement has been made at Cochin and the future history of the port may possibly be free of Customs trouble, but it is by no means sure that customs policy will not affect the future of the Kathiawar Ports as it has affected their past. There is still vigorous disagreement between the Government of India and at least one of the Kathiawar States on the very question of division of Customs revenue.

The Committee would urge most strongly that this should not be ; that no consideration of customs revenue collection should be allowed to influence the use of a port, its control and the routing of external and internal trade.

Natural advantages are fair enough ; position on the coast in relation to centres of population , agriculture and industry, access from the sea, protection from weather, deep sea berths, all these are factors that should determine the siting of a port, but not the financial advantage of a Government or a State interested in revenue to fill its coffers. Competition is not to be despised but it should be conditioned by natural advantages and be found in methods of administration and in the provision of the most suitable facilities for trade ; in short, it should show itself an intelligent and far-seeing port management and not in any endeavour to secure revenue for the Power controlling the fortunes of a port, whether it be the Central Government or an Indian State.

It is finally incumbent on this Technical Committee to point out that any customs agreement which has the effect of diverting trade into unnatural channels is detrimental to the economic growth of the country as a whole.

Self-sufficient Ports

29. As a general rule, a port should be self-supporting This may seem an obvious statement but it is by no means always borne in mind by promotors. It is, however, as pointed out in para. 11, not easy to determine whether the existing ports either in British India or in Indian States are self-supporting or not. This economic aspect of the policy of port development must be essentially qualified by another one to the effect that a port is a long term undertaking and therefore must be built and developed with an eye to the distant future. This dual aspect of harbour policy is borne in mind in considering the various schemes that were placed before the Committee for its consideration. It is obvious that there must be some temptation to the Government of a State to use its port or ports to serve its own domestic ends and, if necessary, to support them out of State revenue. Ports in British India have also, in some cases, expanded themselves for reasons of a similar character. If ports whether in British India or in Indian States, are established or developed merely for the purpose of diverting cargoes from their most favourable economic channels the Committee has no hesitation in saying that such a policy is not in the broad interests of this country. Trade for which a particular harbour is the natural outlet may easily be diverted to another harbour not so well suited if the latter by means of a subsidy from General Revenues or by income which may be received from extraneous sources such as land or buildings can reduce charges to an uneconomic level and so artificially, though not justifiably, benefit the merchants importing or exporting those cargoes.

The Kathiawar and Cutch Ports

30. Bearing in mind the above three main considerations, the subordination of local gains to those of the country as a whole, secondly the advantages of genuine competition and thirdly the avoidance of uneconomic temptations, the Committee now proceeds to deal with the projects which have been specifically laid before it and begins with the Sika scheme.

Before coming to the scheme itself we must consider the geographical and political position of Sika in Kathiawar and we must have a proportionate view of Kathiawar port problems. We are not making a detailed report on the ports of Kathiawar but only attempting to bring Kathiawar into an all-India port survey. We do not wish to be told that we have failed to give due prominence to this or that State undertaking. It is not our task to give or deny any such prominence. The Kathiawar coast forms a very small section of the sea outline of the Indian sub-continent and the only reason why it takes so large a part of our attention, apart from its internal complications, is its proximity to the important centres of Central and Upper India and its inability to take advantage of its geographical position owing to the customs barrier of Viramgam. It is interesting to note that Navlakhi and Bhavnagar are less than 700 miles by rail from Delhi while Bombay is 845 miles distant from Delhi and Karachi 907. The establishment, therefore of first-class port in Kathiawar has much to recommend it geographically.

You do not learn much about the problems of a country by spending a few days in it even though you are so very cordially received as this Committee was in Kathiawar, and are given every possible assistance to understand the inter-port relationships between the individual States and between them and the Goevernment of India. It is, however, not the function of the Committee to examine and assess the general position of these maritime States either as rivals between themselves or as competitors for Customs revenue with the Central Government. As stated elsewhere, the question of the Customs revenue should not be allowed to prevent the development of a port if it is in the large interests of the country as a whole. The Committee, however, would like to state that for the successful working of the Kathiawar ports and for the effective execution of the Sika scheme, the evolution of a common and unified policy of the working of the Kathiawar ports and Kathiawar railways is essential. The Committee, therefore, recommends that negotiations for that purpose may be carried on by the Government of India with the Indian States in Kathiawar.

31. It is necessary first to describe the Kathiawar and Cutch ports very briefly in order to get a balanced picture of their contribution to Indian trade and to understand how the introduction of Sika into the picture influences the whole design.

The Port of *Bhavnagar* in the Gulf of Cambay has an anchorage in the gulf; six miles from the anchorage a small harbour accommodating two ships alongside a quay; and also a further six miles up a creek, a large lighterage and sailing-vessel port. There is a 40 ft. range of tide which is a great handicap to port working and a serious dredging problem at the port. Export trade comprises oilseeds, cotton and grain and import trade wool, cloth, iron and timber.

Porbandar is an open roadstead on the west coast of Kathiawar and is a lighterage port only.

Veraval is an open roadstead on the south-west coast of Kathiawar and is a lighterage port only. It has sheltered accommodation for sailing vessels and has a scheme in view for a sheltered large-vessel anchorage with possible quays.

Port Okha.—Just inside the north-west tip of Kathiawar, has one ship-quay berth and one mooring with lighter berths; it is distant three miles from the outer anchorage. There is a dredging problem. Export trade salt, cement and oilseeds imports of coal and oil.

Bedi.—On the north coast of Kathiawar is a lighterage port only and is completely dry at low tide. The ship anchorage is six miles away. Export trade is in oilseeds, cotton, wool and salt; imports are rice, grain and sugar.

Navlakhi is a lighterage port only 1½ miles from the ship anchorage. Export trade consists of oilseeds, cotton, grains and salt; imports of rice, iron and sugar.

32. Thanks to the courtesy and very thoughtful co-operation of the Hon'ble the Resident of Kathiawar, the Committee was able to interview the representatives of seven Kathiawar States, including Cutch, which lies opposite the north coast of Kathiawar on the other side of the Gulf of Cutch.

Representative of State	Port Concerned
Bhavnagar State	Bhavnagar
Porbandar State	Porbandar
Junagadh State	Veraval
Baroda State	Okha
Nawanagar State	Bedi
Morvi State	Navlakhi
Cutch State	Kandla

The above representatives gave the Committee the information set out in the statement below :—

Summary of information given to the Committee by Representatives of States.

I Port and State	II Approx. Annual tonnage of cargo pre-war	III Capacity in tons of cargo as at present designed	IV No. of Steamers (approx.)	Projected Works
Bhavnagar—Bhavnagar State	300,000	5,600,000	270	New Dredger. More Lighters. One more jetty to enable port to take 4 ships and 1,000,000 tons of cargo a year.
Porbandar—Porbandar State	185,000	370,000	261	Improve approaches. Ten more lighters (50 tons capacity each).
Veraval—Junagadh State .	224,000	450,000	233	Protected Harbour for ships and ship quays.
Port Okha—Baroda State .	274,000	400,000	119	Quay extension and dredging. New Cranes. Target of 600,000 tons a year.
Bedi—Nawanagar State .	200,000	650,000	Not given	
Navlakhi—Morvi State .	200,000	500,000	163	Light the channel leading to the port and remove two small bars. Twelve more cranes and increase port capacity to 700,000 tons.
Total.	1,383,000	2,970,000		
Deduct Bedi figures . .		650,000		
Future capacity. . .		2,320,000		
Add Sika, replacing Bedi as port for Nawanagar State.		1,000,000		
		3,320,000		
Kandla—Cutch State . .	325,000	Not available	64	Can develop to meet trade requirements.

33. Whether the volume of trade passing through the Kathiawar ports will develop to the extent indicated in the figures shown in Column III of the above statement or not it is difficult for the Committee to predict. Without the addition of Sika, the traffic of Kathiawar ports, which stood pre-war at 1,383,000 tons, is expected to go up to 2,970,000 tons per annum. It is true this will be more than a hundred percent rise in the maritime trade of Kathiawar. The favourable geographical position of Kathiawar ports and their potentiality to serve the large hinterland lying behind Kathiawar will not, by themselves, be able to bring such a large expansion of maritime trade to Kathiawar. If anything like the amount of 3,000,000 tons traffic is to pass through Kathiawar, the Committee considers it its duty to point out that it will be hardly possible without very large industrial expansion in that part of India. It may, therefore, be argued whether the creation of such increased port capacity and also the Sika scheme without its being fully utilised is justifiable on economic grounds. It should not, however, be forgotten that the creation of port capacity in excess of the immediate requirements of the trade is a vital aspect of a sound port policy and is followed by important major ports in British India. Apart from this important aspect of the port policy, there are other grounds in favour of the Sika Scheme, such as the quicker handling of cargo, safer working, cheaper working, proximity to Central and Upper India and the fulfilment of the need for a deep sheltered port between Karachi and Bombay. These considerations have, therefore, largely influenced the recommendations which the Committee has made.

Sika

34. Sika lies on the south side of the Gulf of Cutch in the State of Jamnagar, some twelve miles west of Bedi Port. There is a 2,000 foot wide channel at this point, 36 ft. deep, with an easy entrance from the sea and affording reasonably good shelter.

The site was surveyed by the Admiralty so far back as 1851 and again by the Royal Navy in 1943. Acting on this latest survey it is now proposed to build on a reef on the west side of the Channel a ship-quay 1,300 ft. long with a water depth of 32 ft. at quay side. This quay will accommodate two ships of 500 ft. in length or alternatively three or more smaller vessels. Ship working at this quay has to cope with a 22 ft. rise and fall of tide. A lighterage wharf is to be built in continuation of this quay southwards to serve vessels lying at moorings in the channel close to the wharf. An oil berth is also contemplated and port workshops and future factories all with water frontage. Land service is by metre gauge railway to connect with the main line from Port Okha to Jamnagar, passing 15 miles away. The most costly part of the Scheme is likely to be the connection between quayside and railway layout. There appears to be no dredging problem. It is designed to handle about a million tons of traffic annually and is estimated to cost about Rs. 1,05,00,000.

35. In conclusion the Committee is of the opinion that there is a need for a major port between Karachi and Bombay in the Gulf of Cutch and feels that, on the information at its disposal with particular reference to surveys made and schemes in prospect, Sika is the most promising site for the purpose ; and recommends that the necessary steps for the execution of such a scheme be taken. The Committee further suggests that with a view to providing effective and quick rail transport without transhipment to areas in Central and Upper India, on which traffic the port would need to depend largely for its economic prosperity, the laying of a broad gauge railway line from Sika to Viramgam or any other suitable station should form a part of the Scheme.

Kandla

36. The port of Kandla in Cutch presents a different problem altogether. Here we have a natural harbour to all intents and purposes as potentially promising as Sika. It has deep calm water approaches and no particular dredging problem. It is at least as near to the great cities of Central and Upper India as the ports across the gulf of Cutch in Kathiawar ; there are no constructional difficulties and the port already has a jetty alongside which only medium sized ships can lie. Cutch, however, is, unfortunately for itself, cut off from the rest of India. The State has been slow to develop and is said to be markedly behind the times. This is as much due to its lack of enterprise according to modern standards as to its geographical isolation behind the Rann of Cutch, that peculiar desert sometimes dry, at times waterlogged, a desolate area, that stretches for 200 miles or so between the State and the rest of India. It has no road or rail connection with India.

The chief bar to its development as a port of India would appear to be its geographically isolated position. Further the State must give up its own currency which it still maintains and it must come into Customs union or Agreement with the Central Government. These are not matters within the scope of this Committee ; we simply record them and note that a good natural port is waiting for the removal of these obstacles in order to become, so far as the Committee can judge, a useful and desirable addition to the ports of India.

Veraval

37. The only other scheme in Kathiawar for a ship harbour specifically brought to notice of the Government of India and referred to this Committee is that of the Junagadh State for its port at Veraval. This is an open roadstead on the south-west coast having a sheltered basin for sailing craft and lighters. The State proposes to convert this into a port affording sheltered anchorage and possibly later with quays for ocean going steamers. At present the State is asking Government

for help to get a naval survey made of the port possibilities. On figures shown to the Committee the port is now paying its way on a cargo of 220,000 tons a year but whether it could do so on a fully protected port is quite another matter. No engineering report has yet been made, and failing that, the Committee cannot usefully comment on the prospects of a deep sea harbour at Veraval.

Other Ports

38. As shown in the Statement in para. 32 above other ports also have schemes for the future, not for deep-sea ports in particular but for improvement on their present lines; Okha for another quay, Bhavnagar for two more quays, Navlakhi for development as a most up-to-date lighterage harbour which it is already. But in considering all these schemes the Committee comes up against the same problem. Where is the traffic expected to make these schemes an economic success? It is not in the interests of India as a whole to encourage uneconomic schemes, and it is from the point of view of India as a whole that the Committee views Kathiawar.

Railways

39. The Committee is not competent nor is it asked to discuss Railways, but these have a bearing on the Kathiawar Ports as all ports are served by rail and in no other way. Roads are poorly developed and there are no inland waterways. The impression it gained, however, from discussions on the spot is that, so far as mileage goes, the Railways are ample for the traffic and no special expansion save in additional crossing stations should be needed for some years to come. For rolling stock the Railways have the metre-gauge wagon pool on which to rely. In rate quotations they are controlled by the Railway Board.

At the same time it is very doubtful if the best use is made of the railways and it is obvious that the complicated net work of lines in different States and the competing interests of the ports they serve cannot give an efficient and economic service in the interests of all to the maritime trade passing through this part of India. A bottleneck at the Customs Barrier at Viramgam no doubt militates against the working of an efficient port policy. The mere removal of this barrier is not the only, nor indeed the first improvement that is to be sought. As stated by the Committee in para. 30 above, the Government of India should assist the Indian States in the evolution of a unified port and railway system and should open the necessary conversations with them for that purpose.

Bhatkal

40. The Committee can best approach the problem of harbours in Indian States and British India with the assumption that such harbours are national harbours serving or intended to serve the country of India and in no way to be limited by political boundaries. It is on these lines that it takes up the Bhatkal proposal. If the hinterland of Bhatkal were British India and not an Indian State would a port at Bhatkal be regarded as a good economic proposition? If the Government of Mysore regard the opening of Bhatkal as a profitable paying concern should they not press the Government of India to open it up as a national port rather than prolong an unprofitable argument about jurisdiction?

While the Committee can sympathise with the ambition of a State to have a port of its own, that is an affair of sentiment which should not blind us to the fact that we have to keep in view economic development and are concerned with the interests of the country as a whole. We should regard Bhatkal through economic lenses.

41. The roadstead of Bhatkal lies on the West coast of India some 300 miles south of Bombay, about 100 miles south of Mormugao and 300 miles north of Cochin. It is situated at the southern-most tip of the Bombay Presidency within twelve miles of the Madras Presidency to the south and fourteen miles from the Mysore

border to the East. At present it provides harbourage for small sailing craft, except in the monsoon when it is too exposed for an anchorage, and proposals have been made to locate a sheltered deep-sea port at this place.

Past History of the Scheme

42. The possible development of Bhatkal into a deep-sea port has been under consideration by the Mysore Government since the year 1915 when Sir Francis Spring, late Chairman of the Madras Port Trust, made a first report on it. The Mysore Durbar also asked the Government of India for permission to extend the Shimoga branch of the Mysore Railway down to Bhatkal on the coast and to build a harbour there, jurisdiction and control of both railway extension and the harbour being ceded to the Mysore State. The latest engineering report that we have on the subject of the proposed port is one by Mr. A. G. Lyster of the firm of Sir James Wolfe Barry & Co. made in December 1919. Mr. Lyster produced schemes for separating the Bay of Bhatkal from the open sea by groynes and developing an inner creek known as the Sharabi river bed as a fully protected harbour. This scheme was estimated to cost Rs. 144 lakhs and was expected to enable the proposed port when developed to deal annually with 2,300,000 tons of cargo. He also described another feasible scheme different in detail but not in essentials which would admit of better expansion but would be a good deal more costly. He considered that a first instalment of works for the former scheme could be initiated which would cost about Rs. one crore leaving room for future extension up to the above total figure of Rs. 1,44,00,000.

At that time, in the year 1919, it was estimated that trade amounting to about a million tons of cargo would be required to justify the expenditure of Rs. one crore but unfortunately the latest traffic survey made in 1919 only promised about 200,000 tons in a year. The scheme was therefore dropped in the year 1923 and was not revived until much later.

The project has now been again re-opened by the Mysore Durbar and is one of the matters referred to the Ports Technical Committee for investigation and advice.

Railway Connection

43. Apart from the Port project there is also the Railway required to connect the Port with the Mysore State Railway at Talguppa on the Shimoga Branch. The line to be constructed will be 49 miles long including a fairly severe ghat section, and is estimated to cost about 110 lakhs of rupees.

The General Manager of the Mysore Railway has estimated that, taking the port with the whole Railway from Shimoga to Bhatkal, a distance of 111 miles, as one project, a return of 4% on the capital outlay can be expected, but it is difficult to say whether one should regard as one indivisible project a railway already constructed (that is from Shimoga to Talguppa) and a newly proposed railway (Talguppa to Bhatkal) and port at the latter point now under consideration. Possibly the thought in his mind is that the railway line was extended from Shimoga to Talguppa with the eventual target of Bhatkal port already in view but it seems sounder to keep the future project quite distinct from the one already accomplished which must have had its own justification in the local traffic between Shimoga and Talguppa and the great hydro-electric scheme at Jog Falls.

Geographical Position

44. The only port of any size between Bombay and Cochin is Mormugao, a foreign port, and if only we could regard both Mormugao and the proposed port of Bhatkal as ports of India, we would ask ourselves whether from this view-point a port additional to Mormugao between Bombay and Cochin is justifiable. Arsikere which we may take as a central point of the rich Mysore country is distant from the respective ports as under :—

Mormugao . . .	332 miles (calculated mileage on ghat section).
Madras . . .	325 miles
Bhatkal . . .	179 miles.

The opening of the last-named as a port will greatly reduce rail haulage from the coast to this part of the hinterland, and this factor is of great importance, particularly with new industry. The industrial district is going to be round the new electric power works at the Jog Falls and between them and Shimoga which is distant from the respective ports as under :—

Mormugao . . .	344 miles
Madras . . .	393 miles
Bhatkal . . .	111 miles

There are, therefore, geographically grounds for considering the possibility of a port at Bhatkal. Such a port would divert Mysore State traffic from Madras to a figure of 50,000 to 100,000 tons a year and it is thought that it might affect Mormugao to a somewhat similar extent. At the same time the hinterland of Bhatka consisting of the rich and progressive Mysore State would be very much better served by this nearby port than by the more distant harbours of Madras and Mormugao. There is not a great deal to be gained by laying out a new port which has only the merit of diverting cargoes from other ports, but this proposal would definitely be an assistance to the development of Mysore. The question really is one of rupees annas and pies and this is dealt with in the two succeeding paragraphs.

Traffic Prospects

45. The General Manager gave the Committee an interesting survey of traffic prospects of the port and railway and this is summarised in tons as follows :—

1,18,000	Imports of existing trade.
30,550	Exports of existing trade.
25,000	Expected traffic to and from country in neighbourhood of port.
61,500	Traffic from the Shimoga-Bhatkal Line.
3,15,000	Traffic to be newly developed.
Total 5,50,050	

The Committee discussed this estimate at some length with Mr. M. Venkatesh Acting General Manager in relief of Mr. Rangachar, and is inclined to think that the figures are to some extent an over-estimate. For instance, there are not very good grounds for anticipating 25,000 tons of local traffic nor as much as 61,500 tons of traffic from the Bhatkal-Shimoga Line. As regards new traffic the figure of 315,000 tons includes export of 70,000 tons of steel castings, pig iron and manufactured iron and steel articles, also 10,000 tons of sugar from the new irrigation areas surplus to the State's own requirements and those of the neighbouring provincial areas, and finally 40,000 tons of surplus grain. The Committee could not itself conduct a traffic survey but it considers that the figures quoted above are on the high side and that the figure of total trade is unlikely to exceed annually, say 400,000 tons, for many years to come.

Financial Implications

46. (*a*) It is not very easy to estimate the return to be expected on a combined port and railway venture without a detailed enquiry by railway and port experts which will take a long time. The Committee at this stage, however, makes the following rough calculation :—

	Rs.
Capital cost of Talguppa-Bhatkal Railway	1,10,00,000
Capital cost of Port	1,44,00,000
Total .	2,54,00,000

Interest on Port capital cost of Rs. 1,44,00,000 at 3% is Rs. 4,32,000. Repayment of loan advanced to the port in 60 years on the usual terms allowed to Port Trusts at 0·6% is Rs. 86,400. Total annual debt charges—Rs. 4,32,000 *plus* Rs. 86,400 =Rs. 5,18,400.

(*b*) The annual traffic earnings on Port traffic at, say, Rs. two per ton would on 400,000 tons amount to Rs. 8,00,000, and as against this operation and maintenance are likely to cost not less than Rs. 3,00,000 a year. This shows a total debit on the port working of Rs. 8,18,400 against a credit of Rs. 8,00,000. There will, however, be additional receipts from ships' dues, warehouse charges, and other income incidental to the working of a Port Trust.

(*c*) This then means that the investment on the port will be able to earn not less than 3%. That cannot be called an uneconomic proposition. The Committee, therefore, considers that, on the data submitted it is both a practical and good financial proposition. Moreover, the Committee is of the opinion that the development of Bhatkal as a major port is essential for providing a good economic outlet for the trade of the large and rich hinterland of the Mysore State lying behind it. In view, however, of the fact that the engineering report and part of the traffic estimate were made a generation ago, the Committee considers it necessary that a fresh report regarding the engineering possibility of the scheme and fresh data of traffic should be called for.

Vizhinjam

47. The site of Vizhinjam is a Bay on the West coast of Travancore State nine miles south of Trivandrum between that place and Cape Comorin and about 120 miles distant from the major port of Cochin. The remoteness of the ports of Alleppey and Cochin which serve Travancore through the canal system is said to be proving a serious handicap to industrial expansion of the southern part of the State. The present facilities for sea traffic in this area extend mainly to beach loading and unloading, and in the monsoon season all work is suspended.

48. A port is proposed at this place primarily in the interests of the mineral traffic to Europe and America, the most important item being ilmenite, large deposits of which are to be found in the neighbourhood. Particulars of the project have been given to the Committee by the Dewan of the Travancore State, but whether the expected traffic will materialize is uncertain. There is no proposal to build a quay port but only to provide sheltered moorings in the Bay where ships can lie at anchor to receive cargo brought to them from the interior or along the coast by country craft. Villinjam (Vizhinjam) Bay lies at the scoured end of an extensive rock promontory standing out about half a mile and is about one and a quarter miles long terminating northward at Kovalum point. The bay is a shallow segment in shape measuring about two miles long and a little under half a mile wide. It is rounded off at the southern end by another rocky headland of less extent than the northern one. The northern promontory shelters a cove extending some 300 yards behind the point, in which deep water is maintained by scour round the headland. In the area of the bay the five and ten fathom lines are close inshore, the former being at some 300 yards and the latter at about three quarters of a mile out. The set of the waves is approximately coincident with the long axis of the bay, and the beach is generally steep. At about a quarterway point on the perimeter a finger of rock from the higher ground behind bears down into the sea and causes a shallowing of the sand beds. These rocks roughly mark the limit of the sheltered area.

Envisaging the enclosure of the more sheltered part of the bay, an area of some forty acres might lie within the back-waters. But an examination has proved there is available some sixty acres of backland which could be conveniently brought into the harbour area. A large portion of this is not more than one or two feet above sea level, and the remainder is little higher than ten feet.

Briefly, harbour works proposed consist of a groyne between the two headlands of the bay protecting the mooring area particularly on the north-west side and in addition an unknown quantity of dredging in the bay itself. Road communications are good, but linking up the area with the canal system presents some difficulty and will involve tunnelling or deep rock cutting.

49. A very rough estimate of cost of the project has been given as Rs. 3 crores but this must not be regarded as an entirely satisfactory figure since a full engineering report on the scheme has not yet been received. Everything depends on the length of the groyne, its required strength to resist the monsoon and the amount of dredging to be done in the Bay. Not until the engineering report is made and studied can it be said with certainty whether or not the scheme is a practicable one.

50. The main point of the scheme is to provide a sheltered anchorage for ships of at least 5,000 tons, that being the size of vessel that is expected to carry the mineral traffic to countries overseas. Although minerals constitute the chief cargo in view there are other products in the hinterland behind the port such as mica and timber which will be benefitted by this proposal. As an alternative to finding shipping facilities at Vizhinjam they have long distances to cover by backwater to other ports such as Quilon, Alleppey and Cochin.

51. It is not possible for this Committee, without seeing the engineering report above referred to, to judge whether this proposal is an economic one or not. Presumably the Travancore State will give effect to the proposed work if it is in the interest of the State itself to do so.

Rameswaram Canal

52. Rameswaram is an island at the extreme south end of India just west of Adam's Bridge which lies between India and Ceylon. The South Indian Railway (metre gauge) runs through Rameswaram to Danushkodi which is the terminus of the ferry steamer service to Ceylon.

For very many years there have been proposals for connecting the Bay of Bengal with the Arabian Sea by means of a canal between India and Ceylon joining the Gulf of Manaar with Palk Strait. A canal actually exists at Pamban on the western tip of Rameswaram island but this canal will only take ships of 11′ draft and cannot be deepened without great difficulty. It has, therefore, been proposed that a canal should be dug instead across the island of Rameswaram. It is intended to be about five miles long, 90′ wide and 27′ deep at low water, so as to accommodate ships of 26′ draft ; locks at each end are proposed, these to be 31′ deep to allow for future development.

53. The above project was examined and reported on by Sir Robert Bristow, one time Chief Harbour Engineer to the Government of Madras. At that time the construction of the canal was under investigation by the Madras Government in the interests of the minor ports of the Peninsula and the country craft serving them ; it also had the support of the South Indian Railway who were looking for a good port for their ferry steamer service. The work was, however, estimated to cost Rs. 110 lakhs and with a canal dues charge on ships of nine annas per net ton it was considered unlikely that the canal would pay its way and the scheme was dropped.

The proposal was, however, again brought to the fore by the naval authorities in 1942 when a safer and less exposed access to the ports in the Bay of Bengal was a matter of strategic importance, the only available route round the Island of Ceylon presenting great danger of enemy interference. Later the proposal was again taken up by the South Indian Railway who are dissatisfied with the terminal arrangements at Danushkodi and want to make an improved link with their Ceylon neighbour. Finally the scheme has been included as Serial No. 46 in the Madras Government's post-war development schemes published in 1945.

54. The main advantage claimed for the proposed canal is the shortening of the distance between the West and East coasts of India. The Committee has gone into this and finds comparative distances as follows :—

Value of the Canal as a Short-cut

	Calcutta	*Madras*
Cochin to :		
Via Ceylon Coast	1415 miles	
Via the proposed Canal	1170 miles	
Saving	245 miles	
	i.e. 24 hours at 10 knots,	
Via Ceylon Coast		887 miles
Via the proposed Canal		571 miles
Saving		316 miles
		i.e. 32 hours at 10 knots.
Colombo to :	*Calcutta*	*Madras*
Via Ceylon Coast	1136 miles	
Via the proposed Canal	1012 miles	
Saving	124 miles	
	i.e. 12 hours at 10 knots.	
Via Ceylon Coast		597 miles
Via the proposed Canal		406 miles
Saving		191 miles
		i.e. 19 hours at 10 knots.
Aden to :	*Calcutta*	*Madras*
Via Ceylon Coast	3183 miles	
Via the proposed Canal	2940 miles	
Saving	243 miles	
	i.e. 24 hours at 10 knots.	
Via Ceylon Coast		2655 miles
Via the proposed Canal		2334 miles
Saving		321 miles
		i.e. 32 hours at 10 knots.

Time charges *i.e.* cost of Insurance, Messing Wages, Stores, etc. to a Shipowner these days are naturally much higher than they were pre-war while this also applies to the cost of bunker coal which at present is double what it was before the war.

The steamers at present used on the Coast have an average registered tonnage for purposes of dues, of about 3300 tons, and it is understood proposed Canal dues are Re. 1 per gross registered ton which will mean Canal dues per ship of about Rs. 3,300.

It is understood that these figures are not likely to be an incentive to ship owners to utilize the Canal particularly since running costs for ships will presumably decrease as we revert gradually to more normal conditions.

55. The timings given are worked on actual distances and do not take into account the slowing up of speed when approaching the Canal, delay waiting to enter the Canal and also reduced speed when going through it. In practice, therefore, the saving in hours when going through the Canal would work out to be considerably less than the figures given above. Quite apart from this there are the dangers of navigation in confined waters which introduce the element of additional hazard by comparison with the route via the Ceylon Coast where vessels, being well out at sea are able to proceed at full speed all the time. In the Pamban Pass currents set southward during the North East Monsoon and northward during the South West; a minimum of five to six knots is frequently obtained rendering navigation at times both difficult and dangerous. Again official sailing directions say that, when approaching the Pamban Pass from the Southward, caution is necessary as the islands fringing the Coast are very low and there are no hills or conspicuous landmarks, while during the South West Monsoon a thick haze frequently hangs over and obscures these low islands. In such circumstances any Shipowner would consider that, quite apart from the time factor, a slight saving in distance on the route via the Canal does not justify the extra navigating risks and the possibility of accidents.

The above figures are based on the present average coastal steamer. When it comes to the deep sea trades the tendency will be for vessels to be faster and with larger tonnage while many of these vessels will be using diesel oil which saves coal and in turn will reduce their costs for bunkers. Faster speed means a reduction in the time shown as saved even without taking into account the accepted delays when making the Canal, waiting to enter, the passage through and extreme caution to be exercised in the waters on both sides of it. Higher tonnage too will mean higher Canal dues.

Weakness of the Project

56. The advantage of the proposal from the point of view of the Madras Government is concerned with the possible use of the Canal by sailing craft and the increased trade of the minor ports. It has been suggested that developments in shipping for coastal trade may be in the direction of sailing ships with auxiliary engines or of small steamers of about 500 tons. If there is anything in this, the present Pamban canal with a depth of 12′ will probably be inadequate for the needs of the coastal service and it might prove difficult to deepen; but there is no clear indication of any such development in ship design at the present time.

57. The naval authorities have dropped their support of the scheme now that the strategical necessity for this canal is no longer prominent and, though the construction of the canal would shorten the distance between Cape Comorin and Trincomalee on the East Coast of Ceylon by about 170 miles and would give much better protected transit between this naval port and the West Coast of India, the sea approaches to the canal are not very good and the canal itself would in time of war be vulnerable to hostile air attack.

58. In the fourth place, the South Indian Railway is still pressing its case for a better terminal site than Danushkodi at the west or Indian end of their Ceylon ferry service. Danushkodi apparently is a very unsatisfactory terminus and cannot readily be improved. If, therefore, the project of the canal at Rameswaram were carried through, the South Indian Railway would, it is believed, take advantage of the canal works to place their ferry terminus at the site of the canal. At the same time the Railway is definite that it has no interest in the canal scheme as such and is only concerned with the best siting of the ferry terminal in relation to the canal if built.

59. In conclusion, therefore, the Committee is of the opinion that the Rameswaram canal project is unlikely to prove a practical success from the commercial point of view.

Cocanada

60. This is an important town on the East Coast of India and headquarters of a district. The value of its trade was in 1938-39 Rs. 4,62,67,263.

It is situated about 90 miles by rail south of Vizagapatam and is served by a fairly well protected roadstead, which in cyclonic weather is said to provide the safest anchorage on the east coast.

A report was made on this and other ports on the Madras coast by Colonel Du Cane of the firm of Sir John Wolfe Barry, Lyster and Partners in 1920. With regard to Cocanada the Report was discouraging. The Consulting Engineer thought that development in a big way would be seriously affected by the all-prevailing East Coast sand-travel and that the development of Vizagapatam into a major port would remove justification for large expenditure at Cocanada, less than 100 miles to the south of it.

In 1923, however, the Madras Government received a more optimistic report on Cocanada to some extent sponsored, but not written, by their Harbour Engineer Sir Robert Bristow. The Marine Surveyor, who actually wrote this report, gave his opinion that the conditions of sand movement affecting the port were tending towards equilibrium and that a sheltered harbourage could probably be anticipated for the future.

This anticipation is now confirmed by the Presidency Port Officer who in 1944, *i.e.*, 20 years later, wrote a report to the Madras Government containing preliminary plans and estimates for a quay port of large size at this place. The project now stands at the stage that the Madras Government have asked the Government of India to recommend to them a competent harbour engineer to advise on the future possibilities of Cocanada as a deep-water port.

The port is served by the Madras and Southern Mahratta Broad Gauge Railway and is the distributing centre of oil imports intended for the large cities of the Kistna and Godavari deltas, such as Bezwada, Guntur, Rajahmundry. This oil is landed by means of barges from the tankers lying in the anchorage.

Moreover, the large hinterland including the State of Hyderabad is expected to be widely developed when the great Ramapadasagar Dam project on the Godavari river comes into being. It is true that Cocanada is comparatively nearer to this hinterland than both Vizagapatam and Madras ; that is, however, not the only consideration to be borne in mind in judging the necessity of developing the Cocanada Harbour into a major port.

To sum up its view on the proposal for developing the Cocanada harbour into a major port, the Committee does not consider it likely to be essential in the interests of future trade or necessary for the purposes of defence and strategy. The Presidency Port Officer and other Officers of the Madras Government are, however, emphatic that the East Coast sand problem does not exist here and that a deep sea harbour can be obtained here at a cost of only Rs. 1,18,00,000 without involving heavy commitments in maintenance dredging. The Committee is, therefore, of the opinion that the Madras Government's request for an engineering survey of the Cocanada proposal may be complied with and the report in connection with the scheme may be invited.

Line of Approach

61. The third term of reference to the Committee reads :—

> " What steps are necessary to develop minor ports in order to meet probable demands of coastal shipping traffic ". ———and in taking up this reference the Committee was immediately faced with the problem of determining the best course to adopt in order to answer the question put to it. Four months have been given to the Committee in which to deal with all three terms of reference and there are nearly 200 minor ports on the Indian coast not counting those within the borders of Indian States ; it was obviously not practicable that we should visit each and every one or even a large proportion of these and detail the steps to be taken to develop them all. The Committee, therefore, decided to

treat the subject in a more general way and to try and indicate the manner in which the development of the ports should be undertaken on broad lines. In this part of their task the Committee has had before it the Planning and Development Reports of the Maritime Provinces and the proposals made by Indian Maritime States for the opening up of their own coasts to sea trade. It has seen also the applications of various commercial bodies and of private parties for consideration of individual ports and port-projects. Each of these is dealt with in its place. Many minor ports are not susceptible of much improvement owing to natural disadvantages such as unstable sand-banks, the vagaries of river channels and the often incalculable forces of ocean tides and currents : many ports, which once were prosperous, have become back waters of trade the bulk of which has gone elsewhere with the changes in distribution of population ; many of them have been ruined as they have been allowed to silt up owing to the policy of the Railways, many have retired into obscurity because trade has been to a large extent concentrated on the seven major ports where ships' cargoes are handled on a large scale having road or rail or canal communication in every direction and with facilities provided far beyond the means of the exposed coastal anchorage or a small creek. Quite a few, however, in spite of poor facilities have carried a large tonnage of cargo which has continued to be routed through them owing to their favourable geographical position and comparatively low cargo charges.

The Maritime Provinces and States

62. The maritime provinces are five in number Sind, Bombay, Madras, Orissa and Bengal ; and the coast states are those of Cutch, Kathiawar and Travancore. Following the lines of the last paragraph the Committee began by referring to the Planning and Development programmes of the above Provinces and then proceeded to interview the Governments and States concerned who had in view schemes of improvement for their minor ports. Of the Provinces, Sind and Bengal had no proposals of sufficient magnitude to put forward, while Orissa had only one for the improvement of Chandbali near Cuttack ; Bombay had no specific case to press but wished to offer general suggestions ; Madras, on the other hand, has a substantial port-development policy. The Committee, therefore, decided in the comparatively short time at its disposal to concentrate its investigation on the two provinces which were most interested in their littoral sea-trade and where the successful use of the small harbour facilities along the coast is of definite importance to the economic future of the country ; these two provinces are Bombay and Madras. As regards the maritime states, proposals that have been made are dealt with above under the appropriate headings.

Government Policy in Shipping and Railways

63. At a very early stage it became apparent to the Committee that the future history of the minor ports is linked with the Government's policy in respect both of Shipping and Railways and dispersal of industries. We cannot say that now we will settle the future of the minor ports and shut our eyes to their connecting links with the rest of India. It has been said many times that a port is a gateway through which trade passes from sea to land and *vice versa*. A minor port is, if you wish, a postern or a wicket-gate, not of so much importance as the main entrances, but yet performing a definite service, and that service clearly dependent on ships on one side of the gate and railway trains and road connections on the other.

If Government are resolved that the sea-path round the coast of India is to be put to its best possible use it is not only necessary that ports, major and minor, should be fitted to pass the trade, but also that steps should be taken to rationalize the means of transport both by sea and land and discourage in the national interests of the country any unfair and uneconomic competition on the part of either. Should considerations of high policy require that the railway lines running parallel to and

close to the coast all the way from Calcutta to Tuticorin should be used to their maximum carrying capacity, as to all intents and purposes they have been in the past, ignoring the necessity of maintaining and developing the comparatively cheaper form of transport by sea, then the character of the eastern coastal ports need not be changed. They have their trade now, not very great, apart from coal and groundnuts, and can be content with small improvements such as every undertaking requires to keep alive and abreast with the times.

The present carriers of trade, *i.e.* large or moderately large ships upto 5500 gross registered tons that lie well out in the roadstead and the small sailing craft of 50 to 100 tons that nose their way into the creeks are the best medium for coastal and even foreign trade requirements at the minor ports. If deep water berths and channels are to be provided for such ships, they will be both difficult and costly to maintain and will need a large trade to pay for them. At the present time the Governments who have the minor ports in their charge have, therefore, not considered it their duty to carry out such large improvements to these ports. The Government of India have, however, announced in their latest policy that they want to develop national shipping. If such shipping is encouraged and developed and if railways are laid out with a view to feed these minor ports, the Governments will have to consider whether in those circumstances it will become a practical and economic proposition to provide deep water berths and channels for shipping at such ports. Till that time shipping will have to put up with the existing conditions and to continue to work in the roadstead as it is doing at present.

Sand Movement

64. It is desirable to emphasize that, while minor ports of the present type, consisting of roadsteads for ships and creeks or estuaries for lighters and sailing craft, are cheap to maintain and can deal with a quantity of trade, a little roughly perhaps, but still with reasonable speed and safety, the next development, the deep-water channel and quay berth, is not necessarily feasible at any minor port except at great expense, and any scheme for such a work requires very expert engineering advice and a sure trade return, for it will cost money.

The trouble is mainly sand-movement. This on the east coast takes the form of what is known as the littoral drift and on the west coast the periodical silting up of channels which means dredging—that bugbear of harbours—and the blocking of harbour entrances. The littoral drift on the east coast requires a brief explanation.

It is a widely accepted view that the East coast of India is an eroding coast, being exposed to the prevailing ocean current which beats northwards from Australia and that the sea has a tendency to encroach on the land. This sea-action is counteracted by the accumulation of silt brought down to the coast by the big rivers, the Mahanadi, the Godavari, the Kistna and the Cauvery. The silt from these great rivers, being washed northwards up the coast by the South West Monsoon and down the coast by the returning North East, replaces the soil eroded by the sea and so maintains the coast line in a rough equilibrium. Where, however, the coastal flow of silt and sand is obstructed, as for instance by a groyne built out from the coast line into the sea, the sand tends to accumulate on one side of the obstruction and the natural erosion to continue in an aggravated form on the other and we are up against the sand-travel problem about which so much has been written. This is the problem at Madras, now, it is hoped, approaching solution, and a similar problem exists at Vizagapatam which is still not completely solved.

There is reason for thinking that at any point on the East coast where an attempt is made to lay down a deep-water harbour capable of taking large ships this sand-travel bogey will have to be faced. The development, therefore, of any minor port on the coast into a major one depends first of all on answering the question how to design a deep-sea basin with a deep-sea entrance and keep that entrance clear of the coastal sand-drift.

In conclusion, if it is desired to change the character of the minor ports on either the east or west coast, to convert them from roadsteads with small-craft facilities in shore into sheltered harbours in which ships of 1000 tons and upwards can lie against a quay, a maintenance dredging problem has inevitably to be faced and sufficient trade has to be developed to cover the dredging costs. Railway and Shipping Policy hitherto followed does not encourage this change in the minor ports.

Does Trade follow the Facility ?

65. Even supposing that the natural difficulties could be surmounted with economic success it is by no means certain that the development of the small coast port with its resultant diversion of trade from the major ports is a good policy. It is said that the trade will follow the facility that, if you build a good harbour, the country round will develop and the trade to make the harbour self-supporting will grow up of itself. But this is a generalization that must be admitted with caution. The chief centres of Indian trade are not on the coasts except for the great port cities and the only places where a chance has been taken and where the port has definitely preceded the city and trade are Karachi, Cochin and Vizagapatam, all of which were small country towns until their port construction rescued them from comparative obscurity. There were good reasons in the past for putting these three places on the road to greatness, but are we to extend the policy and try to create modern trade centres of lesser magnitude all round the coast ? Although there are undoubted climatic advantages in the proximity of the sea it would, we feel, be quixotic to try and force the coast towns of medium size to develop as port-towns when as a matter of fact the main trade and population centres, excluding the major ports, are for the most part far in the interior and are themselves served by the major ports. This is not a case in which trade follows the facility but rather the other way about, the facility will follow the trade. When substantial agricultural or industrial growth near the coast demands better port communications, then is the time to think of providing the facilities. To draw up a scheme of better ports at intervals round the coast in the belief that trade will come to them is to put the cart before the horse. The Committee would generally prefer to see the trade prospects first before building new channels for it.

Ports of the Bombay Province

66. There are 75 minor ports in the Bombay Province, 25 of which are north of Bombay and 50 to the south. All these ports are very small in size and vary in importance from Broach which passes through traffic worth about Rs. 88 lakhs in the year and Ratnagiri Rs. 62 lakhs down to a little port such as Vijaydurg which carries only about Rs. 12 lakhs worth of traffic. The ports north of Bombay have to compete with the B.B. & C.I. Railway which follows the coastline closely from Bombay to Broach. The ports south of Bombay on the other hand suffer from having no railway communication to bring them traffic, the railway passing 50 to 100 miles away inland.

It seems likely that the alignment of the B.B. & C.I. Rly. along the coast will prohibit any large development of the ports north of Bombay for coastal traffic. On the other hand it is possible that road development, if and when made, may bring more trade to the coastal ports south of Bombay.

Bombay minor ports are not used for foreign trade to any appreciable extent, thus differing essentially from the ports on the East coast of the Madras Presidency with their groundnut trade.

The report of the Bombay Minor Ports Committee appointed in 1937 holds out no hopes of any substantial development of the minor ports and no more recent proposals than those of that Committee have been made. Further, no minor port schemes of importance are included in Bombay Post-war Reconstruction and Development plans.

The following statement of the value of coastal trade for the year 1936-37 gives a useful guide to the size of the ports and the smallness of this trade. It is recorded in the Bombay Minor Ports Committee's Report.

Serial No.	Ports	Imports	Exports	Total
		Rs.	Rs.	Rs.
1	Dhollera	1,93,000	4,02,000	5,95,000
2	Broach	39,06,000	48,71,000	87,77,000
3	Surat	29,73,000	10,79,000	40,52,000
4	Bulsar	11,71,000	7,96,000	19,67,000
5	Revdanda	12,43,000	10,89,000	23,32,000
6	Bankot	22,00,000	6,41,000	28,41,000
7	Dabhol	28,73,000	10,98,000	39,71,000
8	Ratnagiri	43,52,000	18,72,000	62,24,000
9	Jaitapur	22,25,000	3,15,000	25,40,000
10	Malvan	31,65,000	6,10,000	37,75,000
11	Vengurla	20,50,000	10,78,000	31,28,000
12	Karwar	10,00,000	6,07,000	16,07,000
13	Sannibatta	9,23,000	11,02,000	20,25,000
14	Honavar	16,84,000	11,53,000	28,37,000
15	Jaigad	11,67,000	60,000	12,27,000
16	Vijaydurg	10,81,000	1,86,000	12,67,000
17	Bhatkal	4,21,000	17,000	4,38,000

67. Members of the Committee were, by the courtesy of the Bombay Steam Navigation Coy., given the opportunity of visiting some of the southern ports by sea, and the Bombay Government kindly permitted the Collector of Central Excise and the Deputy Superintendent of Lighthouses to accompany them.

In the course of discussion with these officers the following points emerged as worthy of consideration :—

General Proposals for Improvement

(a) It may reasonably be accepted as a matter of long-term policy that all minor ports of the Province should eventually be capable of taking close inshore sea-going power-launches of maximum 8-foot draft and sailing vessels of maximum 10-foot draft with or without auxiliary engines.

(b) Practically all the minor ports are capable of dealing with craft of the above description or can be enabled to do so at comparatively small expense. Such craft should be able to work their cargoes alongside jetties at Gogha, Kavi, Broach, Surat, Bulsar, Bilimora, Navsari, Dahanu, Bassein, Varsova, Revdanda, Bankot, Dabhol, Ratnagiri, Devgad, Achra, Vengurla, Redi, Karwar, Tadri, Ankola and Honavar. While, however, the works required to mee the

above standard are small, they may sometime be necessary and without them coastal traffic is not adequately provided for.

(c) It is desirable that oiling and watering facilities of some kind should in due course be provided at principal minor ports, but this may prove a serious difficulty at some of them and a priority programme of work will need to be drawn up.

(d) Apparently at these minor ports there is no specific charge on cargo, distinct from the charge on ships. This is a little difficult to understand, as port facilities should as far as possible be paid for by the trade using the port, and a very small charge should enable Government to improve the cargo-working facilities on an economic basis.

(e) Tonnage statistics are required for all the ports. It is not possible to make sound and balanced decisions without comparable figures of trade at each and dead-weight tons generally provide the best comparison here as at major ports.

(f) No development of the minor ports for strategical purposes in order to obtain dispersal of port capacity and cargo risks seems possible owing to the small size of the ports.

(g) It should, finally, be realised that the Bombay Government are not anxious to initiate a policy of minor port improvement until the road rail policy of the Government of India is more clearly defined. Para. 63 above deals with this point.

Passengers

68. An outstanding feature of the Bombay minor ports is their passenger traffic, the reason for it being the absence of road and rail facilities in the coastal area. For example, quoting from the Minor Ports Committee, Ratnagiri handled about 133,000 passengers in 1936-37 and Devgad in the same year about 81,000. Last year, 1944-45, the passenger figure on the coast was about two million. In the years before the war over six hundred thousand passengers were transported annually from Bombay itself to the minor ports in and near the Bombay harbour while about a million passengers were carried from Bombay and the minor ports outside the harbour to the minor ports south of Bombay. In addition, about two hundred thousand passengers were carried from Bombay and its minor ports to other ports outside the Province.

These are by no means negligible figures and the Committee was pleased to be given the opportunity of seeing how these passengers are dealt with at some of the ports, including Ratnagiri. The conditions are not ideal. The boats to convey passengers between ship and shore appear well-suited for the purpose, but at some ports and even at Ratnagiri, when occasionally rough weather prohibits the use of the jetty, passengers have to wade through the sea between boat and beach. The half dozen ports that the Committee members visited are well-served by road and road-transport, though lighting at and in the neighbourhood of the port is extremely poor. The accommodation for waiting passengers, except at Ratnagiri, is on the small side and should be enlarged; the same remark applies to the sanitary conveniences. In making these small criticisms we do not, however, forget that in the first place improvement schemes have been held up by the war, and the passenger season does not extend in to the monsoon and therefore normally fine weather is enjoyed by passengers embarking and disembarking. The use of pontoons for landing passengers at small ports has been advocated and seems feasible. They are said to be obtainable

from military disposal sources and are thus described in a note received from the Deputy Superintendent of Light-houses, Bombay :—

"Built of steel tanks complete with joinery fittings etc.; the buoyancy tanks are 7/8" thick, 7' long, and 5' square. They are joined together with suitable steel bars and gimbles either side ways or end on. The upper surface of the pontoon where these tanks are joined together gives you a level walking surface and in very hot weather it is possible to fasten a wooden deck as a heat resisting remedy.

These pontoons are fitted at various sections with gimbles enabling the pontoon to slightly bend on a gentle rise of the swell. The fittings of the pontoon are so arranged to enable any formation of the pontoon to meet local conditions; *e.g.* a "T" end can be made by taking the end section and fastening it across the end of the pontoon, or widening the full pontoon by disconnecting in the middle and fastening the two sections side by side; in fact, any shape and formation can be made.

The Landing and Wharfage Fees Fund Committee, Bombay, proposes to use these pontoons for landing of passengers at minor ports where landing on the fore-shore is difficult. They will be securely moored in such a way as to enable the passenger tarafas come alongside and step on to the pontoon and walk to the landward and where a ramp is connected to that end of the pontoon. This will enable the passengers and their baggage being landed fairly high up on the beach".

Minor Port Policy

69. In conclusion the Committee would emphasize that nothing is to be gained by even considering port development on the West Coast, except for the small improvements desirable in the interests of the passenger traffic, until we see road expansion on the coast. At present the ports south of Bombay are far from the railway and, with their natural disadvantages, are not capable of development because there is no traffic to justify serious expenditure on them. This is not a case in which the port facility will produce the trade; it is rather one in which road construction may do so and we must wait for that to come first. When Government improve and extend their road communications on the west coast then will be the time to consider development of the small ports dotted along that littoral. This is really the answer to the third term of reference to the Committee so far as the Bombay Province is concerned. Subject to the consideration of passengers vide para. 68 above, no steps are necessary to develop these ports at present except for such small improvements as the Provincial Government may find necessary from time to time and such as the very limited financial capacity of the minor port funds permits. Improvements must follow the trade in this instance and no substantial scheme of small ports development in order to induce new trade need just yet be contemplated

Conservation of the Coastline

70. Reference has been made in paragraph 64 above to Sand Movement. The Bombay minor ports, some of them, suffer severely from silting or erosion. For instance the Committee saw a clear example of the former at Vengurla where the old Customs cargo jetty is no longer accessible to cargo boats except at high tide owing to the silting up of the bay. Of the latter, that is erosion, they saw a striking example at Ratnagiri where rapid incursion of the sea aided by the river is taking place and fallen trees and ruins of walls and buildings litter the fore-shore. No effective steps have been taken to arrest either the one or the other and it is clear from the 1937 report on the minor ports that several other ports are similarly affected by natural changes.

The Committee feels that this is a matter of some importance, greater perhaps than should be left to Provincial Governments who may or may not be fortunate enough to have at their service expert engineering advice and other resources which will enable them to deal correctly with their coastal silting and erosion problems. The matter left in inexperienced hands can easily become disastrous as it bids fair to do at Ratnagiri unless something is done without delay.

It would, therefore, venture to suggest that the transference to the Centre of this subject of coast-protection might well be considered by the Central Government with the Provincial and Maritime States Governments. As a matter of fact the Committee would recommend that the conservation of the coast line of India should be the direct concern of the Central Government.

Madras Minor Ports

71. There are 100 minor ports in the Madras Province, 41 on the west coast and 59 on the east, and these present a very different picture from that of the Bombay ports. In the first place, while Bombay has a comparatively narrow littoral strip between the Western Ghats and the sea, the coastal area on the east coast of India and on that part of the west coast which is in the Madras Province is very much broader, more cultivated and more thickly inhabited. There are not cities on the Bombay coast to compare with Calicut, Tuticorin and Cocanada in Madras and the clear contrast between the minor ports of the two provinces is shown by the following statement of trade of ports in the latter province as compared with that of the former in paragraph 66 above.

MADRAS PROVINCE

Statement showing the trade of the principal Minor Ports—1938-39. (Tuticorin is shown separately as, though a minor port, it is managed by a Port Trust).

Serial No. and Ports	Imports	Exports	Total
	Rs.	Rs.	Rs.
1. Calingapatam	28,224	18,34,078	18,62,302
2. Bimlipatam	5,53,020	37,47,435	43,00,455
3. Cocanada	1,29,97,808	3,32,69,455	4,62,67,263
4. Masulipatam	3,89,514	2,46,78,132	2,50,67,646
5. Cuddalore	37,88,034	1,45,52,076	1,83,40,110
6. Porto Novo	3,28,001	1,69,280	4,67,281
7. Negapatam	51,32,967	1,12,67,467	1,64,00,434
8. Pamban	3,27,801	59,221	3,87,022
9. Calicut	2,68,52,509	3,19,94,377	5,88,46,886
10. Ponnani	21,75,039	7,89,828	29,64,867
11. Badagara	15,50,948	37,02,732	52,53,680
12. Tellicherry	27,80,752	22,43,801	50,24,553
13. Cannanore	60,06,985	15,79,687	75,86,672
14. Mangalore	99,90,983	1,89,61,153	2,89,52,136
15. Malpe	10,60,840	5,35,906	15,96,746
Total	7,39,63,425	14,93,84,628	22,33,48,053
Total of other minor ports	50,21,610	2,38,02,520	2,88,24,130
Grand Total	7,89,85,035	17,31,87,141	25,21,72,182
Tuticorin (1938-39)	3,12,91,254	4,53,84,993	7,66,76,247
Tuticorin (1944-45)		..	9,56,35,706

From the above statement it will be seen that seven of the Madras ports carry in peacetime each an annual trade valued at more than one crore of rupees, and all of the seven cities where these ports are situated are places of fair size, and all owe their importance to their geographical position on the sea-coast and to their sea-trade.

It may be mentioned here that it is a pity that tonnage statistics of cargo at these ports are not readily available, but only value statistics obtained by the Customs Department. The lack of such tonnage statistics is referred to in paragraph 67 above dealing with the Bombay ports ; their absence is even more noticeable when we are dealing with the much larger undertakings in the Madras Province. The Committee would, therefore, strongly urge upon the Government of India to take early and effective steps for maintaining full and up-to-date statistics of cargo and passengers passing through all the ports of India.

Madras Government Plans

72. The Committee had a long and full discussion with representatives of the Madras Government on the subject of the future of the Madras ports, their improvement and the financing of works proposed, and it cannot do better than record the various proposals and its opinion on them.

Before taking these, however, it may be mentioned that the first question discussed was whether the Madras Government anticipated any change in the class of ships now carrying the coastal trade of the Presidency through the minor ports. The Presidency Port Officer said that he was under the impression that ships of 500 to 1,000 tons were likely to be put in service for this trade and he said that he had a request from one of the Oil Companies for information whether craft of 10 ft. draft could be taken at the ports of Masulipatam, Cuddalore, Negapatam and Tuticorin. It may be noted that craft drawing 10 feet can lie in the canal at Cocanada where bulk oil is discharged from barges.

The Committee itself has no information that a change in the class of ships performing coastal services is contemplated and it is assumed that the coastal service at least in the near future as in the past, will be maintained by large coasting steamers which lie out in the roadsteads and cannot approach very near the shore and by small sailing craft which can pass over the bars at various ports and do their work at jetties in sheltered water inside. Similarly lighters can also work at these jetties and carry cargo between them and the ships in the roadsteads.

Natural Handicap of the Eastern Ports

73. The littoral sand-drift, which is described in para. 64 above, is the bane of the East coast. It is this which prevents the natural growth of the ports. So long as a port consists of a roadstead with shallow-water jetties inshore as at Cuddalore and Masulipatam, or with open beaches as was in old days the case at Madras, nature does not interfere. As soon, however, as an attempt is made to bring the deep sea close inshore and to confine it between walls the sand makes trouble. It has spread along the south side of Madras Harbour and at one time threatened the entrance ; it makes the expense of maintaining useful jetties for deep ships at a very small port prohibitive, and only large trade can justify it. Unless, therefore, there are clear prospects of vastly increased trade at places like Cuddalore and Negapatam such ports must remain as small ports content with the primitive carriage of cargo by lighters between the shore and ships lying at anchor well out to sea. The Committee, however, suggests that suitable steps be taken to maintain the approaches up to a proper standard. Under this category must be included the Port of Chandbali near Cuttack in Orissa. Here the Government propose to spend Rs. 10 lakhs on port improvement but the port will remain a small port and nothing can be done, except at crippling expense, to make it anything more. It is the same natural sand-action that caused the nearby port at False Point to be abandoned, though at one time it appeared to be a natural harbour.

Proposed Dredgers

74. Accepting the possibility that a change in the future size of coasting steamers might materialize the Government of Madras planned to obtain two dredgers at a

cost of roughly Rs. 80 lakhs in order to keep some at least of the ports open for the working of ships of 18 ft. draft or something like it at jetties and quays on the coast-line. There is, however, nothing, as already pointed out, to show that such a change in the type of ship employed is mooted and so this expenditure will be saved but it is quite certain that, if it were found desirable to carry the coasting trade in small coasters drawing about 18 feet, a very heavy dredging commitment would have to be met on the Madras coast.

Overseas Trade of Minor Ports

75. One other peculiarity of some of the Madras eastern ports has to be indicated before we come to the Government's improvement proposals and that is their participation in overseas trade, mainly groundnuts. The ports principally contributing to this trade are Masulipatam and Cuddalore, though others such as Calingapatam, Bimlipatam, Cocanada, Pondicherry and Negapatam also join in it. Broadly speaking the reason for this habit of the groundnut trade is that these ports are nearer to some important producing areas than the larger ports of Madras and Vizagapatam and so rail transport is saved by the use of them. In the two years before the war the following tonnage of groundnuts was handled at the two ports :—

At Masulipatam in 1938-39	162,095 tons.
At Cuddalore 1938-39	122,200 tons.

This may be compared with the Madras tonnage in 1938-39 of 183,850 tons.

Works Proposed

76. The Committee then traversed the Madras Government's proposals for improving their minor ports and discussed these proposals with the Government representatives.

(*a*) *Cocanada.*—Government have prepared plans for spending about 6½ lakhs at this port, the chief items being the reconstruction of the Dry Dock (120 feet long for dredgers etc.), expected to cost Rs. 1,80,000, the re-alignment of the wharf walls at a cost of Rs. 1,20,000 and thirdly the construction of a masonry retaining wall on the north bank of the Commercial Canal. There are also other proposals of smaller importance. The Committee agrees that the works seem to be sound and should be undertaken.

(*b*) *Masulipatam.*—The Government have planned to spend Rs. 4,70,000 on improvements to the new bar channel at this port and the work is given priority in the list of works on minor ports. The trouble with the bar channel is that it is now liable to shift as much as 3,000 ft. in some seasons and this makes lighterage work a matter of difficulty. At this port ships lie over five miles off shore, cargo being conveyed to and from them by means of lighters. The wharves are situated at the head of a creek which is very tortuous so that the distance from them to the mouth of the creek is nearly seven miles. Three or four years ago a new bar channel was dredged so as to shorten the distance from the wharves to the mouth but, while this improved condition in the channel, it failed in its prime object owing to the effect of the littoral drift causing the new mouth to travel steadily northwards, now being 2,600 ft. north of where it was out in 1943.

It is now proposed to dredge a deeper and wider channel from the wharves to the mouth, to short-circuit the large bend in the creek by excavation and dredging and to construct groynes seaward from the original site of the new mouth out beyond two fathoms of water so as to stabilize the mouth. From time to time the groynes will have to be extended in order to keep ahead of the accretion which is bound to occur at the Southern groyne. The rapidity of accretion is not known and is a matter of conjecture but, owing to the natural slope of the sea-bed being a very easy one, it is anticipated that accretion will be rapid.

On the whole, judging from past experience of the behaviour of sand on the East coast, the Committee cannot help being a little dubious of the wisdom of this proposal

an expenditure of Rs. 4,70,000 is not lightly to be undertaken especially as an unknown maintenance obligation is involved, and it has been explained to the Committee that the only object of the work is to reduce the length of carriage by lighter.

(*c*) Minor reconstruction and improvements costing a little over Rs. 2 lakhs are proposed at *Negapatam* and *Cuddalore* and the Committee has no criticism to make on these proposals.

(*d*) *Calicut.*—Government propose to spend Rs. 9,72,000 on this port. Rs. 1,90,000 is to go to the widening of the South Pier ; Rs. 6,25,000 on the construction of a new pier ; Rs. 75,000 on the construction of a sea face wall north of the North Pier ; Rs. 60,000 on cranes etc. ; and Rs. 22,000 on trolley lines. These proposals seem to the Committee to be sound. Calicut has a large traffic of about 600,000 tons a year but whether this will grow or even continue must depend to some extent on the development of Cochin.

(*e*) *Mangalore.*—The only substantial work proposed at this port is the reconstruction of the North Wharf at a cost of Rs. 1 lakh and this expenditure is no doubt justifiable. The Committee discussed with Government the question whether the bar at this port should be dredged down to about 14 feet in order to give sufficient depth for the admission of small passenger steamers of 1,500 tons in particular and incidentally cargo ships also. The facilities that will be created by the removal of the bar will be a great relief to the passengers moving to and from Mangalore. It will, however, involve definitely non-remunerative expenditure and will call for maintenance dredging operations. It is difficult to say whether the incurring of such expenditure will be justified by the nature and the extent of the relief that it will provide for. Such work could similarly be undertaken at the ports of Beypore (Calicut) and Cuddalore but, apart from the works themselves, maintenance dredging will be required.

(*f*) *Tuticorin.*—The Port Trust Board which manages the affairs of Tuticorin port has a programme of works amounting to over Rs. 12½ lakhs. Of this amount, however, Rs. 9 lakhs are allocated to a new Dry Dock and accompanying buildings and the Committee is informed that it has been decided to postpone this work. The balance of over Rs. 3½ lakhs is spread over several items of wharves, jetties and passenger facilities, also a new grab dredger and several other smaller items. All these works represent normal port improvement.

(*g*) Other much smaller works are proposed at the minor ports of Adirampatnam, Tellicherry, Malpe, Coondapore, Hengarkotta and Calingapatam, and the Committee has no special remarks to make on them.

Less Urgent Works

77. A programme of improvement of very small minor ports has also been prepared by Government, the works consisting mainly of piers at each port. In conversation, however, with the Government representatives it did not appear to the Committee that very great significance is attached to these proposals and no necessity has been established for them.

Financing of the Works

78. The Madras Government representatives were asked how it is proposed to finance the works detailed in paragraph 76 above and it was explained to the Committee that the present proposal of Government is to make a free grant of Rs. 43 lakhs to cover them. It appears that funds to this amount lay some years ago in the Minor Ports Fund and that about the year 1939 Government used those moneys for other purposes. Now it is suggested that the money may be re-transferred to the Minor Ports Fund and be used to carry out the improvements to minor ports mentioned above. Financing of the works may safely be left to Government and the Committee have no comments to make except that, while the expenditure under paragraph 76

above seems on the whole to be justified, there does not appear any very strong reason why the improvements referred to in paragraph 77 costing nearly Rs. 59 lakhs should be undertaken at this stage. Consideration can always be given in later years in the light of industrial and/or agricultural developments of the hinterland to these widely dispersed Ports.

The Madras Government have now proposed to start the programme of works with a 5-year plan including the following items :—

Minor Ports	Rs. 1·25 lakhs in 1945-46. Rs. 15·59 lakhs in 1946-47.
Port of Tuticorin	Rs. 4 lakhs in 1946-47.
Marine fisheries	Rs. 1·7 lakhs in 1946-47.
Transport of fish.	Rs. 5·18 lakhs in 1946-47.

Calicut and Tuticorin

79. In paragraph 25 above attention has been drawn to the somewhat artificial distinction between major and minor ports. Calicut and Tuticorin emphasize the weakness of this distinction because Tuticorin has reached a tonnage of about 500,000 tons a year and Calicut of 600,000, figures comparable with those of Vizagapatam and Chittagong and almost as large as the tonnage of Cochin. The traffic at Tuticorin consists chiefly of imports of grain, coal, cotton, cocoanuts and exports of grain, fibre, vegetables, cotton yarn, dry fish and salt and that at Calicut of imports of grain and manure and exports of tea, groundnuts, coir and coffee.

These two ports serve a large hinterland and do considerable trade and it is not perhaps a wise policy to separate them from the major ports as though they were in some way different in quality. The Committee, therefore, feels that the potentialities of these ports becoming major ports in course of time should influence the solution of the problems connected therewith.

Other Port Projects

80. Various other proposals for ports have been made during recent months. A private request has been received for consideration of development of the port of Vembar in the Gulf of Manaar and a somewhat similar request for port construction near Point Calimere. These two proposals are, however, somewhat nebulous and require first of all examination by the Government controlling the minor ports.

Conclusion of the Report

81. The Committee, in concluding its report, offers its grateful thanks to those Government officers and others who have supplied the information requisite to meet the terms of reference and have also tendered their advice on various points. This is not a report on the whole port policy of Government and most of the major ports are barely mentioned but the terms of reference have demanded a fairly extensive review of the future of Indian ports, involving consideration of many aspects of transport in which the Committee has been much assisted by outside views. As a matter of fact, the Committee has stated at the very outset of the Report the broad considerations of a port policy which have influenced their views.

Finally ports are vital links in the effective and efficient working of transport both by sea and land. And, while the establishment and expansion of ports will have to be related to the general development of trade and transport in the country, the Committee is convinced that the planning of ports and their construction and the services which they have to provide should, in the national economy of the country, precede the anticipated developments and needs of transport.

Recommendations of the Committee

82. The Committee is strongly of the opinion that the following broad considerations, namely—

(*a*) the economic indivisibility of British India and Indian States;

(*b*) the increasing requirements of India's rapidly expanding agriculture and industries, as also the desirability of the dispersal of industries ;

(*c*) the integration and implementation of a comprehensive, well-balanced and efficient policy of transport and its effective development in all its forms ;

(*d*) the routing of trade through ports not to be influenced by Customs Policy ;

(*e*) the need for a long view in the siting of new ports and the development of existing ones ;

(*f*) the evolution of a sound policy of Defence for the whole country ;

(*g*) the geographical position and importance of India in the Indian Ocean ; and

(*h*) the strategic importance of India in the development of a World Order in the Far East,

should govern the formulation of an all-embracing and progressive port policy for India.

(2) As regards the first term of reference, the Committee is of the opinion that Vizagapatam on the East Coast should be developed as a sheltered deep sea port which can accommodate ships at least up to 650 feet in length with drafts up to 30 feet.

For this purpose the Committee strongly recommends that the improvement at the entrance, the expansion of the quays, the building of a dry dock and the provision of other facilities mentioned in the Report should be immediately taken in hand and the finance required for the execution of the whole project should be found by the Government of India.

The Committee suggests that, with the further development of the Vizagapatam harbour and the railway system leading thereto, a proper future lay-out of the city of Vizagapatam with Waltair is called for.

(3) The recommendation of the Committee for the development of Vizagapatam has not made it necessary for it to examine the possibility of the establishment of another sheltered deep sea port between Vizagapatam and Calcutta, but the Committee feels that the Government may need to investigate such a possibility in due course.

(4) As regards the proposals for a Ship Canal scheme and River Training Works, as suggested by the Chairman of the Calcutta Port Commissioners, the Committee feels that it cannot, on the data available before it, say that those proposals are financially sound or will effectively attain the object which they have in view. The Committee would, however, welcome the fullest and the earliest investigation of the improvements to the navigable approaches to the Port of Calcutta and the drawing up of a scheme for that purpose which would, without permanently affecting deep sea navigation in the Upper and Lower Reaches of the Hooghly, provide facilities for steamers with deeper drafts to navigate to and from Calcutta at all times. The Committee, therefore, suggests that the technical, financial and other relevant aspects of this or any other scheme, with particular reference to its permanent repercussions on the Upper and Lower Reaches of the Hooghly, should be fully examined by experts. And in connection with the proposed extensions of King George's Dock the effect of the policy of dispersal of industries on the volume of traffic that will flow through the port in future should be fully gone into.

(5) As regards Madras, the Committee recommends that the vesting in the Madras Port Trust of the prescriptive rights over the land south of the harbour should be arranged, so that the harbour water-front can be enlarged in the only possible direction as and when the trade of the port may demand it. The Committee further recommends that the Board may actively pursue the experiments which it has been carrying on at present for the reduction of the range. Whether these experiments are successful or not, the Committee recommends that the first stage of the Wet Dock Scheme for four berths should be completed within a period of ten years.

(6) As regards the second term of reference, the Committee is of the opinion that here is a need for a major port between Karachi and Bombay in the Gulf of Cutch

and feels that, on the information at its disposal with particular reference to surveys made and schemes in prospect, Sika is the most promising site for the purpose ; and recommends that the necessary steps for the execution of such a scheme at Sika be taken. The Committee further suggests that with a view to providing effective and quick rail transport without transhipment to areas in Central and Upper India, on which traffic the port would need to depend largely for its economic prosperity, the laying of a broad gauge rail line from Sika to Viramgam or any other suitable station should form a part of the scheme.

(7) For the successful working of the Kathiawar ports and for the effective execution of the Sika scheme, the Committee considers the evolution of a common and unified policy for the working of the Kathiawar ports and Kathiawar railways is essential and recommends that negotiations for that purpose may be carried on by the Government of India with the Indian States in Kathiawar.

(8) The Committee is of opinion that the development of Bhatkal as a major port is essential for providing a good economic outlet for the trade of the large and rich hinterland of the Mysore State lying behind it. From the data of the existing and potential traffic and Engineer's report relating to the scheme placed before it, the Committee considers it both a practical and good financial proposition. In view, however, of the fact that the engineering report and part of the traffic estimate were made a generation ago, the Committee is of the opinion that a fresh report regarding engineering possibility of the scheme and fresh data of traffic should be called for.

(9) As regards the Vizhinjam proposals of the Travancore State, the Committee is of opinion that the scheme should be carefully examined after the State has submitted a satisfactory engineering report in connection therewith.

(10) As regards the Rameswaram canal project, the Committee considers it as unlikely to prove a practical success from the commercial point of view.

(11) As regards the proposal for developing the Cocanada Harbour into a major port, the Committee does not consider it likely to be essential in the interest of future trade or necessary for the purpose of defence and strategy. It is, however, of the opinion that the Madras Government's request for an engineering survey of the Cocanada proposal may be complied with and the report in connection with the scheme may be invited.

(12) As regards the third term of reference, the Committee recommends that the relative economics of transport by sea and transport by rail should be fully investigated by the Government of India and that the policy which the Government propose to adopt for the maintenance and expansion of the comparatively cheaper form of transport should be enunciated in clear and precise terms.

(13) In the meantime, the Committee recommends that the schemes for improvement of the minor ports framed by the Provincial Governments, subject to the Committee's criticisms in certain cases, should be carried out.

(14) The Committee further recommends that the conservation of the coastline of India should be the direct concern of the Central Government.

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7th May 1946.

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REPORT

OF THE

POST-WAR SUB-COMMITTEE

OF THE

Insurance Advisory Committee

Cx. fi. 43

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NEW DELHI.

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PART I.

INTRODUCTION

This Committee was appointed to consider "all the problems relating to post-war India". In construing these words, we have assumed that we are to confine ourselves only to the comparatively narrow field covered by voluntary insurance as transacted commercially by private companies and that we are not required to explore the various other fields of insurance which are usually the responsibility of the State.

2. Nevertheless, we feel that we will not be transgressing our terms of reference in first making a few observations on certain closely allied topics. We feel that there are directions in which the field of insurance is so far unexplored in this country and these should be explored if the country is to ensure progressive economical improvement to the utmost limit possible. For example, cattle insurance is almost unknown in this country at present. Some years ago there was a number of cattle insurance co-operative societies in the rural districts of the Bombay Presidency and the Punjab, but they all failed, firstly because of the absence of adequate and reliable statistics on which to base operations, and secondly because the management of the societies left much to be desired in the matter of efficiency. We think that a fresh well-planned start should be made in this direction, and we strongly recommend that for this purpose the Imperial Council of Agricultural Research should be requested to collect suitable statistics so that in five to ten years' time adequate statistical material may become available without which the venture might prove a leap in the dark. The importance of this aspect of insurance would need no emphasis if it is realized that economically, cattle form the only valuable possession of and the only source of livelihood to the majority of the rural population.

3. Crop insurance is another direction in which this country is very much backward. We strongly recommend that the Imperial Council of Agricultural Research should be requested to collect the relevant statistics for this purpose. There are many other types of insurance transaction in the U. S. A., the most insurance—minded of all the countries in the world, and the list of the various types of insurance permitted under the New York State Act is indeed formidable. Credit insurance and export trade insurance are two which this country might usefully adopt even now.

4. A further field is that relating to sickness, unemployment and allied types of insurance for the industrial and other manual workers, included in the comprehensive description 'Social Security'. As this subject is already under the consideration of the Government we feel it unnecessary to make any specific recommendations thereon.

5. One direction in which we feel action can be taken is introduction of compulsory insurance of factory workers. At present most of the factory workers who are the main bread-winners for their families are not insured so that any accident either fatal or non-fatal, but involving complete or partial interruption of earnings involves the families in financial distress except for the meagre relief provided by the Workmen's Compensation Act. The contemplated Social Security plans, when put into force will partly fill this gap but the relief provided by the plans might not be fully adequate for the needs of the average working class family.

LIMITATIONS OF PLANNING

6. There is a fundamental difference between the development of the business of insurance in post-war India and that of Industrial activities mainly concerned with the production of material goods. In the case of industrial activities post-war development may take the shape of establishment of new industries either to overcome the great handicap owing to their lack which the demands of war have revealed, or because of the discovery, under the stress of war, of raw materials particularly suited to the starting of certain new industries. In the case of existing industries the development may take the form of rationalization leading to economy which the large-scale and accelerated production under the tempo of war might have engendered. Neither of these conditions exists in the case of insurance and any planning for this industry will have to take into account this limitation.

INSURANCE PUBLICITY

7. Of all the civilized countries of the world, India has the lowest *per capita* insurance. While this is no doubt due mainly to the poor economic condition of the masses, the fact that the general population has not been well informed about the benefits of insurance, is also a contributory factor. Concerted measures are therefore necessary to make the public acquainted with the benefits of insurance and to make them more "insurance-minded".

8. It has been suggested that the publicity work could best be undertaken by a board more or less similar to the Indian Coffee Board and supported by a levy from all insurers. We however feel that there is no necessity to associate the Government in this matter at least at this stage, and that the publicity could be achieved by voluntary joint effort on the part of all insurers. The insurers are at present spending fairly large amounts individually on publicity. While it is not suggested that such publicity should be done away with altogether, we feel that better results would be achieved if a part of the amount so spent by each insurer were pooled together and utilized to give publicity to the merits of Insurance in general and Indian Insurance in particular. Efforts made in this direction in the past have not met with appreciable success, but further efforts should be made by insurers with a view to achieving publicity for Indian Insurance. With a view to bringing in all insurers into the scheme, a board should be set up jointly by all the associations of insurers and this board entrusted with the scheme and its detailed working. Insurers who are not members of any of the associations should also be invited to join the scheme and contribute towards its expenses. It is hoped that the response will be good but if there are many recalcitrant insurers, it may then be considered whether any measure of compulsion should be adopted.

IMPROVED SERVICE TO POLICY-HOLDERS.

9. We would commend to the insurers the desirability, nay, the necessity of better service to the policy-holders. This improvement may be by way of liberalising the policy conditions in the contract or it may be by way of offering services outside the contract.

10. We believe that there is scope for further liberalising policy contracts and even with respect to old contracts where the conditions are too rigid it is hoped that companies will take an enlightened view and interpret the conditions in as liberal a manner as possible.

11. The attempt made recently by some insurers to disseminate knowledge on matters on health by publication of leaflets was the first step in the

direction of better service to policy-holders. The discontinuance of such service is probably only temporary and due to the war. This service should be revived and in course of time extended to cover medical service, not of course of such a complicated type as is now the case in some foreign countries, particularly the United States of America, but of a moderate type.

12. In this connection we recommend the creation of a joint medical research board to be financed by all insurers which will study diseases and suggest preventive measures. The measures that are suggested will have to take into account the conditions in this country which differ widely from those obtaining in other countries due to climatic and economic differences and should utilize to the utmost the indigenous resources so as to be within the reach of the poor masses of this country.

13. Service of this nature and in other possible directions to policyholders would call for great care and economy in the administration of life insurance companies. It cannot be too strongly emphasized that such services are never substitutes for the necessary reserves which alone would enable insurers to perform their main function, and the services can come only as luxuries provided by efficiency and economy of management after, but only after, all the reserves to meet the contractual obligations, actual or contingent, are fully set up. Once this limitation is fully realised by the insurers there is no reason why insurers should not extend these services more and more within limits. The advertising value of such service is immense, as, after all, the best advertisement an insurer can have is a satisfied policyholder.

INSURANCE EDUCATION LIBRARY AND RESEARCH

14. Satisfactory service to the policyholders can be rendered only if the insurer has a well-trained staff. At present owing mostly to lack of facilities, the staff of the average insurer is but poorly educated on matters relating to insurance. They have probably learnt something by experience but it will be admitted that this is hardly the ideal method. The examinations recently started by the Indian Life Assurance Offices Association constitute a welcome beginning in the matter of insurance education but it must be realised that this is only a beginning. The aim should be to bring into being an institute like the Chartered Insurance Institute of the United Kingdom. This Institute should provide an efficient tuition service, both oral and correspondence. It should also be an examining body the diplomas of which should be recognized by insurers as well as by the Government. Insurers should encourage their staff to appear at these examinations and success in these should be rewarded as is done in other advanced countries by increased salaries and improved prospects.

15. What is said above regarding the necessity of a sound insurance education for the staff applies equally to the agents. It is only the agent who in most cases, comes in contact with the policyholder and any opinion which the policyholders may form about the particular insurer or of insurance generally will be based to a considerable extent on the manner in which the agent deals with his prospects. More often than not it is the agent who has to study the insurance needs of the prospect and it is essential therefore that the agents should have a fairly good knowledge of matters relating to insurance. Suggestions have been made to the effect that no one should be granted a licence to act as an agent until he has passed an examination which need not necessarily be in English for the purpose. While we consider this the ideal, we do not in the present circumstances favour giving effect to this suggestion immediately. It is however sincerely hoped that insurers will of their own accord strive to see that every agent of theirs acquires a working knowledge of the principles and practice of Insurance.

16. The agent should pay special attention to the particular circumstances of his prospect and recommend to him the type of policy which would be most suitable to him even though this might mean that the commission is not so large as under another type of policy which is not suitable to the prospect. It is up to the insurer to see that there is a proper incentive to the agent to sell policies that will not lapse.

17. Special schemes of insurance have been evolved in different countries to meet differences in the needs of the population arising out of differences in race, and economic condition. In India we have only copied a few schemes from Britain. A knowledge of insurance practice in various parts of the world is sure to broaden our outlook and open new avenues for Indian Insurance. At present there is no place in India where the literature on this subject relating to the different countries is collected and kept ready for reference and study. Such a collection will prove useful in at least two ways. One is that a close study of the literature would stimulate thought and initiative in evolving new schemes and new methods to suit Indian conditions as outright adoption of any existing schemes would generally speaking not be suitable. The other is that this country can benefit by the experience of others and have the advantage of prior warning so that it can avoid the mistakes committed by others.

18. The lack of library referred to above should be remedied at once and immediate steps should be taken to start building up one. The progress may be a little slow during the war owing to delay in postal communications and also to many books being temporarily out of print but it should be possible to equip the library fully within a short time of the cessation of the hostilities. All books, pamphlets and other literature on the theory and practice of insurance should be collected and where the books are not in English some arrangement for getting them translated into English should be made. All schemes of insurance in every country whether operating as private or semi-private enterprise, or as State Schemes should be studied closely. Each scheme should be examined to see whether it can be adopted to suit Indian conditions and needs. A scheme obtaining in a foreign country even if unsuitable for adoption in this country may serve to stimulate lines of thought leading to some new idea worth exploiting. All material necessary for a correct appraisal of Indian conditions should be stocked and studied as a knowledge of such conditions is essential for modifying foreign schemes to suit this country.

19. As and when any scheme emerges out of such work, a pamphlet setting out the scheme and its origin should be prepared and circulated to associations, actuaries and others interested in insurance for opinions and criticism. In the light of such opinions and criticism the scheme or plan should be revised. Work of this type would stimulate constructive thought on lines beneficial to the business. Even if this research scheme yields one good idea per year and a few minor ones, the trouble is well worth it.

20. The library will be located at the place where the contemplated Institute is situated, with branches at such other places as that body may decide. The library may be thrown open to research workers even from outside who obtain the permission of the Institute.

21. Laws governing insurance business in the various countries of the world should also be examined with a view to finding out provisions which will promote healthy growth of insurance in India and their ultimate incorporation in the insurance law of the country. Ways and means adopted in foreign lands for putting down evasion of the provisions of law should be studied and adopted if necessary with suitable modifications.

22. It is also very desirable to have a Central Organization which would keep up-to-date information regarding all matters in the investment field and circulate the information to all insurers who desire to have it and are prepared to pay for it. This matter can also be entrusted to the proposed Institute or its Department which is in charge of the library and research.

MORTALITY INVESTIGATION

23. The importance of a mortality table based on the experience of all insurers in respect of Indian assured lives needs no stress. The only extensive investigations relating to Indian assured lives are those done with statistics available with the Oriental life Assurance Company Limited, on five different occasions in the past. No insurer can assume that the mortality of lives assured with him necessarily corresponds with that in the Oriental experience. A combined mortality table will furnish a better standard with which the individual experience of each company can be usefully compared. It is recommended that the work of compiling such a table should be undertaken by a committee of actuaries, under the auspices of all the Associations of life insurers. All the insurers operating in India should be asked to furnish data. The data furnished can and should be kept confidential and insurers may rest assured that since the actuaries will only deal with dry numbers in which the identity of the lives assured is not disclosed the clientele of one insurer will not be known to another. If insurers ultimately decide to have the deviations from the normal of individual insurers investigated, as was done in the United Kingdom, so that those that experience mortality much heavier than the average of all insurers, might get timely warning for improving their methods of selection, the actuaries could be depended upon to keep the knowledge acquired in the course of such analysis confidential. Such an investigation will also have its use in fields other than life insurance work. For instance it might enable comparison of mortality in this country with that in other countries on the basis of reliable statistics which comparison it has not at all been possible to make on the basis of the mortality investigations in connection with the decennial censuses owing to the extreme unreliability of the figures relating to Indian censuses. From the point of view of the Government of the country the figures will thus have their use in fields of this type. But as their main use will be in connection with the conduct of life insurance business in this country, the companies should contribute a major portion of the expense of conducting the investigation, the Government contributing the balance.

MEDICO-ACTUARIAL INVESTIGATION

24. In addition to a mortality investigation it is highly desirable to have a combined Medico-Actuarial Investigation on the lines of the one made in the United States of America a few years ago. That investigation enabled actuaries in that country to study the effect of different types of impairment on longevity. With the aid of the results disclosed by such an investigation they have been able to arrive at a system of numbers representing the percentage deviation from the normal that appertain to each of the factors that fall to be taken into account in assessing the risk while considering proposals for life insurance. This numerical system of assessment as it is called, enables even junior assistants to deal with the proposals for insurance quite mechanically and at the same time expeditiously and scientifically and eliminates entirely the play of personal factors as regards acceptance which elimination is very desirable at the initial stages at which the proposal is considered. The case comes before the senior official responsible for final acceptance well digested and in the form of a chart which enables him to fix his attention simultaneously on all the vital factors influencing the selection of the life and he is able to exercise his judgement

without having to give his attention to minor details. A member of this committee has personal knowledge of how this system has enabled insurers in the U. S. A. to dispose of a large number of cases within a short time, which would not have been possible otherwise.

25. The above investigation had another beneficial effect on insurance. With the knowledge as to the incidence of extra risk gained the actuaries in U.S.A. have been able to accept with suitable extra premiums most of the substandard risks which would normally be declined as uninsurable. It is the mission of insurers to offer insurance protection to those who apply for it and to decline a proposal unless the life is absolutely uninsurable is a confession of failure. It is not suggested that these risks should be accepted at an inadequate extra. If a proper extra based on scientific study of the case is charged, the proposer will be enabled to get without any loss to the insurer insurance cover which perhaps is more needed in his case than in others.

BIRTH AND DEATH STATISTICS

26. It is a well known fact that the Birth and Death records of this Country are lamentably deficient. This has already been commented upon by every one of the actuaries who were responsible for analysing the population statistics at the various decennial censuses from 1881 onwards and they have all recommended that accurate records of births and deaths should be maintained if not for the whole country at least for selected representative areas. If accurate records for the whole country are maintained insurance companies will be enabled to get a better proof of age than what they have been getting so far. But no action has been taken on these recommendations so far. These records will supply the basis for scientific working of insurance institutions in directions which remain unexplored at present on account of this serious handicap. For example in drawing up a scheme of sickness insurance for the industrial population to begin with and the general population later, the element of mortality plays a role second only to that played by sickness and disablement. We therefore feel that necessary steps should be taken by the Government without any delay to ensure keeping of accurate births and deaths records in the country.

27. This is, of course, not the place where we could go into a detailed discussion of all the various measures that would be necessary for achieving this object. But among those that readily occur to us in this connection, we may specially mention measures like countrywide campaign to educate the public about the necessity and utility of prompt registration of births and deaths with the proper authorities, improvement of the machinery for maintaining such statistics in rural areas and if necessary, making such registration compulsory.

LIMITATION OF EXPENSES

28. Of the three elements that enter into the calculation of the premium rates viz., mortality, interest and expense, the first, except for the improvement that would accompany a more careful selection of lives, is outside the control of insurers. The second factor of interest is also to a large extent beyond the insurers' control. In fact during the last few years insurers helplessly witnessed a fall in the gross yield obtainable on their investments which combined with a steep increase in taxes has reduced the net yield to a dangerously low level. With the high rate of 63 pies in the rupee at which ceiling for tax is fixed for insurance companies the prospect for insurers as regards interest earnings looks none too rosy. In view of this, if insurers are to be in a position to offer insurance protection to the public at attractive rates of

premium and to provide also the further service referred to earlier, a reduction in expenses, the only factor within the control of insurers, is essential.

29 .We cannot help observing that the expense ratio of most insurers operating in India is higher than in other countries and higher than it need be even taking into account the conditions in India. One of the important reasons for the high expense ratio is the heavy cost of procuration. The main reason for this is the acute competition between insurers in grabbing the meagre business available. Either because of the craze for big new business figures or because of a feeling that insurers cannot exist without a large volume of new business competition has become unhealthy and uneconomic. In another part of the report we have suggested amalgamations as a remedy for this evil, and here we confine ourselves only to measures that will help insurers to write and maintain business at a low cost.

30. It has been suggested by some that the question of reduction in the present high expense can well be left to the voluntary effort of insurers themselves and that in any event the Superintendent of Insurance has wide powers under the Insurance Act enabling him to take action in any case where insolvency is feared or established.

31. As regards the first part of the above suggestion we have to observe that though during the last few years a slight reduction in expenses has been noticed, the position continues to be far from satisfactory. The fact that the position as regards expenses still remains unsatisfactory in the case of many insurers even though they have been in existence for a number of years points to the conclusion that Government should not rest content with a mere appeal to the insurers.

32. As regards the other part we must point out that the powers given to the Superintendent of Insurance can be exercised by him only after the financial position of the insurer has become precarious. The object however should be to take steps which will impose a check on an insurer who is drifting to that state as soon as the drift commences.

33. We are therefore forced to the conclusion that legislation is the only remedy. At the time the Insurance Act, 1938 was passed commission to agents was exorbitantly high and the legislature hoped that by limiting the agent's commission the total expenses of management would diminish. The last few years subsequent to the passing of the Act have belied this hope as insurers barring a few exceptions have only discovered methods to evade the provisions of section 40 by appointing a large number of intermediaries between the agents and the insurers with the result that the reduction in the agent's commission effected by the Act was not in fact reflected in the expenses of management of insurers. The only solution for the evil is in our opinion, a limitation of the total expenses of an insurer. We might mention here that the State of New York adopted limitation of expenses as a cure for the disease of extravagance as long ago as 1906.

34. We might add that statutory limitation of expenses is independent of and in addition to the supervisory powers vested in the Superintendent of Insurance under the Insurance Act, 1938.

35. To help the insurers to reduce expenses limitation of commission of licensed agents and chief agents will also be necessary. We also recommend that the intermediaries between the branch office or the chief agent and the insurance agent should be restricted to the barest minimum on the basis of

the volume of business and the number of agents the aim being to have only bonafide intermediaries. Our recommendations accordingly are :

(i) Further limitation of agent's commission.
(ii) Limitation of chief agent's commission.
(iii) Limitation of number of intermediaries.
(iv) Limitation of over-all expenses.

36. This report is not the place to consider the actual detailed formula for the limitation of expenses but we would like to mention the general principles which should govern such limitation. No insurer should be allowed to spend more than what is provided for expenses in the premiums received, except that during the first few years of their existence insurers may be allowed to spend a little more but the additional amount should not exceed the provision for bonuses in the premium.

37. The position as regards expenses of management of insurance companies transacting non-life business in this country is also unsatisfactory. Even though the companies are having some underwriting profits during the war period, their past experience was very bitter. The Indian general insurance companies had prior to the War practically no underwriting profit, and the reserve position of the companies is not what it should be. To the evil of underwriting on an uneconomic basis is added that of excessive cost of administration and these two leave little or no margin for additional reserves and underwriting profits. Unless immediate steps are taken as regards this class of business also for imposing statutory limitation of expenses we are afraid the general insurance business in this country will make no headway and will be doomed in the post-war period and this will mean a substantial drain on the resources of this country as an invisible import. The limitation of expenses above referred to should take the shape of a limit separately on the ordinary agent's commission, commission to chief agents and the over-all working costs. Unless this is done by the Government it will be difficult to put Indian general insurance companies on a par with institutions of this kind in other countries of the world.

AMALGAMATION AND TRANSFER

38. One of the reasons, though not the main one, for the high expense ratios of many insurance companies in India is that they are too small and therefore are uneconomic units. We recommend that they should combine with strong units. It will be remembered that some years ago a tendency towards elimination of smaller units by amalgamation was in evidence in the United Kingdom and although the volume of insurance business transacted in that country has considerably increased there has not been any significant addition to the number of insurers with the result that the insurance needs of the United Kingdom are met by a comparatively small number of strong insurers. Persons at the helm of affairs of smaller and weaker units will do well to consider whether those units should continue their separate existences or whether they should transfer their business to big and sound companies. The latter also have a duty towards the well-being of Indian insurance and they should consider sympathetically proposals for transfer from smaller companies in the realization that any harm done to the policyholders, confined though it may be to those of a unit however small, will undermine the confidence in insurance and undo the good work of several years in making the masses insurance-minded. Those in charge of the management of smaller companies also should view the whole question from the point of view of safeguarding the interests of policyholders and not of their self-interest. Cases are known where good propositions for

transfer have foundered on the rock of inability to provide high positions in the official cadre of the absorbing company for those associated with the management of the weaker company. The position as regards the clerical staff is, however, different and it may in most cases be possible to fit them into the clerical grades of the amalgamated company which will ordinarily go on expanding. The transfer of the business of a weak company to another company is, generally speaking, a painful process in so far as the insurance contracts of the former may fall to be reduced to a certain extent so as to avoid any injustice to the policyholders of the absorbing company. Where the business of a weak company is transferred to a strong company the policyholders of the former could expect that their contracts would almost certainly not be further reduced. But where the amalgamation is of two weaklings, apart from there being no guarantee that there would not be a further reduction of contracts the chances are that the two together will produce a unit no stronger than the weaker of the two.

39. What has been stated above applies with even greater force to the case of Provident Societies. Excepting a few the others are too small to be able to function economically. Even the minimum overhead expenses weigh heavily on them. Their finances are naturally in a bad way, and the valuation reports only confirm what is obvious viz., that most of the institutions are insolvent. High expense ratios are inevitable when the units are very small and it is hoped that the smaller and the weaker provident societies will take steps to transfer their business to stronger ones in their own interests and in the interests of the poor men whom they seek to serve. While one might raise the bogey of monopoly as an argument against combinations, it is also possible to overdo the contrary aspect and create several weaklings warring with each other for the meagre business available thereby spoiling the field and confidence.

INVESTMENT POLICY

40. While we recognise the basic soundnees of the premises on which the present restrictions of investments under section 27 of the Act have been built, we nevertheless are of the opinion that the restrictions have at present been imposed in a manner which unduly curbs the freedom of the industry as a whole. Though generally speaking, we would be averse to the complete removal of these restrictions, or even to any great relaxation of the requirements, we think that in the interests of the industry a modification is called for in this respect. At present a life insurer has to invest 25% of his policy liabilities plus outstanding claims less deposit and policy-loans in Government securities, a further 30% in Government or other approved securities and the remaining 45% in any investments which the insurer may choose. We feel that either the 55% to be invested in Government and approved securities should be scaled down to a lower percentage or alternatively the definition of approved securities should be enlarged, but only for the purposes of this section, to give a wider scope for the investment of the funds of life insurance companies. For example, Head Office buildings, Ttustee securities and first mortgage debentures of limited companies might be included under the definition of approved securities.

CAPITAL STRUCTURE AND VOTING RIGHTS

41. As we are recommending the removal of certain restrictions on the investments of life assurance funds, it has to be ensured that such removal does not lead to any undesirable consequences. The life assurance fund of any well established company is several times larger than the share capital and in many cases it runs into crores. Investment of these funds which are virtually trust monies, must be made solely in the interests of the policy-holders

and it should be ensured that the control of these huge funds does not pass into the hands of any one individual or group of individuals who can manipulate the funds to their own advantage without any regard to the interests of the policy-holders.

42. Under the law as it stands (except for a 25% representation to the policyholders which in practice has not given the results hoped for) the shareholders, or to be more precise a bare majority of them, have an absolute control of the company. If any individual were to acquire 51% of the shares, he can get absolute control over the huge funds of the company even though his investment in the company forms but an insignificant proportion of its total funds. The consequences can well be imagined. Cases have occured where the assets of the life fund have been used to further the ventures of the controlling interest. In other cases companies have changed hands without any reference to the interests or the will of the policyholders. It is therefore necessary to see that the control of an insurance company transacting life insurance business which is virtually a trust institution cannot pass to or remain with any one individual or group and the suggestions given below are made to achieve that end.

43. We recommend that the principle already adopted in the case of the Reserve Bank of India namely that no shareholder can have more than a certain number of votes irrespective of his holding, should be followed in the case of insurance companies transacting life insurance business and that the maximum number of votes may be fixed at ten. To prevent some insurers getting round this provision by raising the face value of the share we also recommend that the face value of each share should not be allowed to be changed so as to exceed Rs. 100/-.

44. An allied problem that has arisen is that of the shareholder who has no real interest in the company and who uses his statutory rights as a shareholder against its interests. He may be the tool in the hands of a rival company or he may try to utilize his "nuisance value" as a blackmailer. It is recommended that the insurer must have the right to remove such a shareholder subject of course to certain necessary safeguards. The Superintendent of Insurance or the Court may be given the necessary power to authorise such removal. Provision for the award of compensation to such expelled shareholders at a figure to be determined by the Superintendent of Insurance or the Court as the case may be must also be made.

45. Although a few insurers, started in the past with a small capital, are functioning now with success it has to be admitted that a larger number started with an inadequate capital, had to go into liquidation. In explanation of the success of the few in the first category it has to be stated that competition in the past was not keen, if not non-existent. Since then state of things has altered, and new insurers will find it very difficult to make headway unless they come into existence with adequate capital at their back. We therefore recommend that both life and general insurance companies should be adequately capitalized before they commence underwriting business. Such a provision will strengthen the position of the industry as a whole and incidentally will also have the effect of making the companies less vulnerable to the designs of some capitalists to gain control of its funds.

DIVIDENDS.

46. As a natural corollary to what has been detailed above viz., that the policy-holders have an enormously larger stake than the shareholders in a life insurance company, the question arises as to what proportion of the profits disclosed by

the periodical valuations should belong to the shareholders. No one would grudge a small part of the profits disclosed being paid to the shareholders as proper remuneration to them for the initial risk they undertook. But the position becomes grossly inequitable when the proportion of the profits belonging to shareholders is fixed by the constitution of the insurer at a high percentage presumably on the basis of the meagre profits anticipated in the earlier years of his existence. Most of the profits disclosed as a result of the valuation is really contributed by the bonus loading contained in the larger premiums paid by the with-profit policyholders to whom a substantial part of the profits should legitimately be returned in the form of bonuses. There is therefore no real justification for shareholders absorbing a large part of that profit merely on the basis of a provision in the Articles of Association which might have been inequitably drafted and to which the policyholders were not a party. We therefore recommend legislation to the effect that no insurer can utilize more than 10% of the surplus for the benefit of shareholders.

47. This limit of 10% should be progressively reduced when the surplus is so large that even 10% of such surplus would result in a very large return on the capital.

TAXATION.

48. The law as it stands now provides that life assurance companies pay tax on the interest income less restricted expenses, or the total surplus disclosed less 50% of the amounts distributed to the policyholders, whichever is greater. This is a departure from the practice in the United Kingdom in the following respects :—

(i) Restricted expenses, instead of actual expenses, are taken into account for the purposes of "interest less expenses" basis and

(ii) Under the "surplus" basis only 50% of the amounts distributed to the policyholders is allowed as a deduction from the surplus disclosed, instead of 100%.

49. The first though objectionable in principle may be allowed to stand in view of the high expense at which some companies conduct their business. As regards the expenses of management allowed we have recommended in another section of the report statutory limitation of expenses of life insurers and the actual limits adopted in pursuance of that recommendation should be substituted for the existing maximum limits of expenses under the Income Tax Act.

50. With respect to the second we feel that allowing only 50% of the amounts distributed to the policyholders as a deduction from the total surplus disclosed is highly inequitable. It is well known that the 'surplus' is in no sense a profit in the generally accepted sense of that term. The bonus to the policyholders is merely a return of the excess premiums paid and the inequity of the basis of taxation in this respect will be clear when it is remembered that with-profit policyholders are charged higher premiums than the non-profit policyholders and that these premiums contain a specific bonus loading. Tha Government themselves recognized the force of this contention when, in the year 1939 they allowed 50% of the profits distributed to the policyholders as a deduction from the surplus instead of taxing the entire surplus as was the case previously. It is urged that the Government should lose no time in removing the inequity that still remains and bring the 'surplus' basis of taxation in line with the practice in the United Kingdom.

51. All life insurance contracts are based on the assumption of a certain net rate of interest being earned and if an insurer is to be in a position to fulfil his contracts he should earn on his funds at least this minimum rate of interest. The interest income is thus essential to the fulfilment of his obligations. Had this interest income been earned by the individual policyholders as a result of separate investments, in most cases, it would not be taxable at all, and even in the few cases where it is taxed, the rate of tax attracted would generally be much lower than the rate of tax for life insurance companies even taking into account the ceiling rate fixed recently. The above consideration distinguishes life insurance companies from other companies and the fixing of a ceiling for tax in the United Kingdom as well as in India for life companies is in itself a recognition of this principle but we feel that the ceiling has been fixed at too high a level and should be brought down.

52. In this connection we would also refer to the provision in the Income Tax Act in terms of which premiums paid by an assessee in excess of Rs. 6000/- are disallowed for purposes of rebate of income tax. The changed economic conditions of the country have rendered this limit rather low and we urge that it should be raised to Rs. 10,000/-.

ADDITIONAL RESERVES IN THE CASE OF NON-LIFE COMPANIES.

53. The necessity for building up Additional Reserves, that is, reseserves additional to the usual ones for unexpired risks is realised by one and all and the recent disastrous explosion in Bombay has only served to emphasise this necessity. Insurers have been asking that transfers to such reserves should be exempt from taxation but such a request made when the insurers are distributing the major part of the profits arrived at before providing for such Additional Reserve lays them open to the criticism that they are asking the Government to subsidise indirectly the dividend declarations. In order not to give any ground for such criticism, we strongly advise insurers not to distribute any part of the profits disclosed before such additional reserves have reached adequate levels.

54. On the other hand with the present high rates of taxation we feel that the companies will not be able to build up Additional Reserves of an appreciable size within a reasonable period in the future unless transfers to such reserves are exempt from taxation. The laws of probability, however, teach us to expect and provide for major losses which do occur though once in a number of years and this would show that the Additional Reserves are as essential as the normal reserves for unexpired risks and insurers are on strong ground when they claim that transfers to such Additional Reserves should be exempted from taxation till the reserves attain a certain size.

55. After considering these two points of view which are, to some extent conflicting, we urge that the insurance companies should be encouraged as far as possible to build up a special reserve out of their underwriting profits, in addition to the customary 40% for unexpired risks, and that transfers to such special resserve should be exempt from tax by being taken as items of expenditure till such reserve reaches 100% of the annual premium income for Fire and Accident Departments and 150% for Marine Department. If any portion of the Additional Reserves is transferred to the Profit & Loss account at any time that portion should be subject to tax.

LOSSES DUE TO WAR.

56. It is well known that Indian insurers who have been carrying on business in enemy occupied territories have suffered losses due directly or indirectly to the acts of the enemy. It is too early to say whether these insurers will be able to

get any compensation for these losses suffered but it is suggested that some arrangement should immediately be made whereby full information can be collected in regard to the details of all such losses so that when the time of signing the peace treaty comes, necessary information might be readily available.

REINSURANCE FACILITIES FOR NON-LIFE COMPANIES.

57. Reinsurance facilities in a country determine to a large extent the prospects and possibilities of developing general insurance business. We therefore considered the question whether the existing reinsurance facilities for Indian Companies are adequate keeping particularly in view that, in the post-war world rapid growth and development of Indian general insurance companies is indispensable. We came to the conclusion that they are not and in fact it would not be too much to say that one of the main causes for the tardy development of general insurance business in this country is the absence of adequate facilities for reinsurance arrangements for Indian companies. Various suggestions to remedy this have been put forward before us. One suggestion is the setting up in this country of an Indian Reinsurance Corporation either State—controlled or as a private enterprise actively supported by Indian general insurance companies and fully supported by the Government. A plea has also been made in this connection that the amount at the credit of the War Risk Insurance Fund which has been built from the contributions of the mercantile community in this country and which rightfully belongs to them, should be utilised for the purpose of forming the nucleus of a fund for starting a reinsurance corporation. The establishment of such a reinsurance corporation will doubtless facilitate the placing of their excess reinsurance by the Indian companies while at the same time it will obtain for them reciprocation in respect of the large premium ceded by them at present to foreign insurance companies which deny this privilege to Indian companies.

58. The need for such a corporation is urgent in view of the fear that foreign insurers established in India may bring pressure to bear upon reinsurers abroad to limit reinsurance facilities to Indian companies with the object of restricting their ability to accept business freely whilst at the same time fully conserving their own underwriting facilities. While it is not at this stage suggested by us that any such reinsurance corporation should cut across the normal channel of existing reinsurance facilities available to Indian companies both inside and outside the country, there is a case made out in favour of starting such a Reinsurance Corporation to help those Indian Companies which find it extremely difficult to place their excess reinsurance after exhausting their normal reinsurance facilities as well as to help those Indian companies which are unable to obtain reinsurance facilities at all, either with or without reciprocation. An additional advantage of such a reinsurance corporation would be that it would reciprocate an equal amount of premium to its constituents.

59. There is yet another important consideration in favour of starting such a reinsurance corporation. We have recommended in another section of the report that Indian insurers should commence transacting new classes of insurance such as Crop Insurance, Cattle Insurance and Credit Insurance. It will be very difficult for them to get reinsurance facilities for these classes and the establishment of a reinsurance corporation would solve this difficulty.

60. We are, however, aware that the subject is not without difficulties, technical and otherwise. We, therefore, suggest that before any final decision and steps are taken to form such a reinsurance corporation the Government should appoint a Committee consisting of representatives of Indian general insurance companies to study the problem in all its aspects and make detailed recommendations in this regard.

NON-MEDICAL BUSINESS.

61. One direction in which insurers can practice economy is by the issue without medical examination of policies of which the sum assured does not exceed Rs. 1,000/- to begin with. An enquiry made into the duration of the persistence of medical selection in connection with an investigation into the mortality experienced by those insured with the Oriental Government Security Life Assurance Company covering the decennium 1925-1935 has proved beyond doubt that the effect of medical selection on lives assured does not on the average, last for a period much longer than one year. There is no reason to assume that the experience of other insurers in this respect is any better than that of the 'Oriental' which may be assumed to be a feature of medical selection at least for the present for assurance purposes in India. This being the case insurers would not be taking any great risk if they transact non-medical business subject inter-alia to the following conditions :—

(1) The sum assured does not exceed Rs. 1,000/-.

(2) The business is confined to lives not older than 35 at entry, to begin with.

(3) A declaration of good health is taken in every case and properly scrutinised.

(4) In case of death in the first year only a part of the premiums paid is returned according to a sliding scale.

(5) The papers relating to the personal and family history of the proposers are subjected to a very careful scrutiny and the insurer reserves the right, in cases where these are not entirely satisfactory, to call for medical examination.

62. This would call for concerted action on the part of all insurers. After investigating the experience acquired by the issue of non-medical policies for Rs. 1,000/- over a period of say 5 years and finding it satisfactory, insurers may extend the principle to policies not exceeding Rs. 2,000/- and we do not advise extension of the issue of non-medical policies exceeding Rs. 2,000/- for a considerable time.

PROVIDENT SOCIETIES.

63. It would have been noticed even on a casual examination of this report that we have made specific mention of provident societies only in a very few places. This is not to be construed to mean that provident societies have received insufficient attention at our hands or that we do not value the commendable service which well conducted provident societies are capable of rendering to the lower middle and the poorer classes of the population. Since provident societies render the same service as life insurance companies except that they issue policies for smaller amounts therefore confine their activities to the poorer section of the population the technical nature of their administration and activities are identical with those of ordinary life insurance companies. Consequently all that has been stated above should be taken as applying to the provident societies also with such obvious modifications as are necessitated by their smaller size and the smaller amounts for which they issue policies of insurance.

64. Two points referring to provident societies, however, need specific mention. One is the necessity of raising the limit of the sum assured by the policies which provident societies are entitled to issue. The limit holding at present viz., Rs. 500/- is in our opinion too low to enable provident societies to

transact business economically. We recommend that the limit should be raised to Rs. 900/- and as a corollary the lower limit for insurers should be raised to Rs. 1000/-. This lower limit should also apply to mutual insurance companies. Co-operative life insurance societies may however continue to enjoy their present privilege of issuing policies for any amount.

65. The other point relates to section 85 of the Act. We recommend that the "Government securities" referred to in that section should be replaced by "approved securities" and the latter expression should include the items already recommended for inclusion for the purposes of section 27.

66. In concluding the Report we desire to place on record our great appreciation of the help rendered to us by Mr. A. Rajagopalan, B. A., F. I. A., the Secretary, both during the course of our deliberations and in drafting the Report.

L. S. VAIDYANATHAN (Chairman)
M. A. AZIZ ANSARI.
J. C. SETALVAD.
S. C. MAJUMDAR.
N. V. NAYUDU.
T. C. KAPUR. } Subject to their
T. M. STURGESS. } note of dissent.
ASHUTOSH BANERJEA. } note of dissent.
K. M. NAIK. } note of dissent.
K. C. DESAI. } note of dissent.

Secretary,
A. RAJAGOPALAN.

PART II.

MINUTES OF DISSENT

Investment Policy.

The problem of investment of Insurance Funds arises mainly in the case of Life Insurance business. Funds in respect of other classes of insurance business merely represent the balances from year to year of a trading account comprising only short-term contracts and there is no urgency to earn any specific rate of interest on such funds. In life insurance, on the other hand, funds continue to grow and accumulate for a considerable length of time even if there is no inflow of new business and these funds must be invested and kept growing at a minimum pre-determined rate of interest, in order to satisfy the contracts when they mature for payment. Further, life insurance funds represent the savings of the policyholders and an important portion of the savings of the people as a whole. With the increasing insurance consciousness of the people and insurance reaching the bottom strata of society, these funds are bound to get more and more indentified with national savings, and become more akin to national debt. Such savings must naturally be harnessed to serve the needs of the people. There is no case for entrusting the control of these funds to private investors and entrepreneurs. These funds, would, in due course, represent the basis of the structure of national finance and, being built upon the savings of the people, it is the people, or their will as expressed by the State, that should control the disposition of such funds.

It is now assumed on all hands that planned development is the essential pre-requisite for economic and industrial progress. Planning involves control over investments and money market in the interests of national economy. The Planning authorities will, therefore, set up an investment board to assist planning in its financial aspects. As institutional investors and as custodians of the savings of the people, insurance will be represented on such a board. The Board will draw up a list of investments in industrial and other enterprises which it would be in the interests of the nation to promote and insurance will take its due share in their promotion. The Board will also scrutinise Government borrowings and determine the purposes, issues and redemptions of Government loans.

When we are all agreed on planning and all that planning involves, private enterprise and private control of investments must needs subject themselves to the guidance and control of the planning body. Not to recognise this principle is a negation of planning.

This committee is only one of the several committees to assist in Postwar planning for India and we cannot go against the very principles involved in planned development.

One can view this in the light of accepted canons of insurance investments and consider whether the course suggested above satisfies those canons; viz., security of capital, the necessity of earning a pre-determined minimum rate of interest, a fair proportion between readily convertible and not readily convertible securities investment to aid life insurance business and the spread over of investments over as wide a range as possible. Absolute security of capital is ensured with the securities of the State behind the planned economy envisaged above. The rise in the standard of living of the people and the promotion of industrial enterprises aid insurance business inasmuch as they create wealth, increase the per capita income, enable tiding over slumps and economic crises and ensure the health and well-being of the nation. These factors will, in due

course, improve both the quality and the volume of insurance business transacted in the country. As planning develops in various industries and economic activities, the spread-over of investments over a wide range is ensured. The insurance representative on the National Investment Board will press for ranges of securities as to yields, maturity dates and terms of issue and redemption in order to meet the needs of insurance funds' investments; if necessary, securities open only for insurance investments may be floated, should the industry require such subsidy from the State. The problems of insurance investment will be brought for the consideration of the Board and its peculiar nature explained by the Insurance Representative therein.

With this procedure the need for keeping Government Securities, approved securities and other assets in water tight compartments vanishes.

DIVIDENDS.

I am unable to see the rational of the practice of basing dividends to shareholders on surpluses in life insurance funds. By its very nature the life insurance fund is built up out of premiums paid by the policyholders and the interest earned thereon, less outgo in terms of the contract with the policyholders and the expenses of management. Surpluses in the fund so built up arise out of two major factors :

(a) the Bonus loading provided in the premiums

and (b) the favourable experience of the fund in regard to mortality, expense and interest as compared with the respective underlying assumptions.

The part of the surplus attributable to the first factor, viz., the Bonus loading, does not really arise out of the valuation : it is deliberately provided in the premiums for being given away as bonsues and the distribution of surplus in a valuation so far this loading is concerned is only a return of this deliberate provision to the policyholders in a different form. In other words, the bonus loading is returned in successive valuations (assuming that the Company is working within the assumptions) in such a form that the cash value of the reversionary bonuses in the earlier policy durations is less than the bonus loading paid by the policyholders and in the latter durations more. The shareholders can have no more claim to the part of the surplus attributable to the bonus loading provided in the premiums than to the amount paid by way of premiums themselves.

The next source of surplus, viz., favourable mortality, interest and expense is one for which credit must go both to the shareholder and to the policyholder : to the former, in as much as they guide the policy of the company under the law in particular regard to careful selection of lives, sound investment policy and economic management so for as life policies are concerned ; and to the latter, in so far as it is the mortality among them and it is the interest earned on the funds contributed to by them that most of the surplus is earned.

On this reasoning, I would suggest that the shareholders' part on any surplus of a life insurance company should be arrived as follows :

Firstly, the valuation should be made reserving bonuses at the rates underlying the premiums. The distinction at present made between the expense provision for without profit policies and expense and bonus provision for with profit policies in life office valuations does not always bring out the above bonus reserve ; the expense provision on without profit policies seldom conforms to the

experience of the Company and the difference between the provisions for with and without profit policies to the bonus loading. If a bonus reserve valuation is not made for any adequate reason, the valuing Actuary should be asked to state what bonus reserve his method of valuation would approximately provide. It should not be difficult to give this estimate in the light of researches made comparing reserves on net premium and bonus reserve bases on various assumptions. The surplus emerging after the reserve has been strengthened by these should be distributed to the policyholders and the shareholders *pro rata* the life insurance fund and the share capital or in some other equitable ratio.

In the case of composite companies, the question may arise as to what portion of the capital should be treated as pertaining to life business for the purpose of this argument. But it should not be difficult to apportion equitably taking into consideration any demands made by non-life business on the capital by way of statutory deposits, security deposits with banks, the reserve position etc. In the case of young companies with large capital the policyholders' portion will be small as the life fund will be low. The bonus being an attraction for securing more business, the shareholders may have to give up for business considerations part of their portion of the surplus.

(N. V. Nayudu).

It is a matter of regret to me that I have to append this note of dissent. If my differences with my colleagues had pertained only to some matters of details regarding the recommendations made in the report, I would have reconciled myself to the idea of not appending this note, but unfortunately, there are certain matters regarding which my disagreements are major and of far reaching importance, I, therefore, think it necessary to place my point of view before the Government as also the public so that the points raised by me may receive due consideration and may perhaps prove useful, if not immediately, at least in the future.

The business of life insurance is, in several respects, different from the business of a trading or a manufacturing concern. One important difference is that in the case of trading and manufacturing concerns, the entire capital is supplied by the shareholders. There may be cases where the capital is augmented by borrowing, but the amount borrowed cannot ordinarily exceed the capital. In the case of life insurance companies, however, the position is just the reverse. Although under the law at present, there is some need for some capital when a company is started, yet as soon as the business commences, its necessity decreases and later on when the business expands, its importance pales into insignificance. By mere transaction of business, funds keep accumulating in the hands of a life office and the Life Fund of a Company goes on increasing year by year and the percentage of its capital to the Life Fund goes on decreasing.

The policyholders of Life Offices have long term contracts. The financial implications, therefore, are not restricted to the present or even to the immediate future ; they range in influence and importance to a large number of years. Any adverse circumstance caused by the negligence or the policy of the directors may have repercussions occasioning heavy losses and the shareholders no doubt will have to share those losses but their portion of the losses cannot be of such a magnitude as will have to be borne by the policyholders. A shareholder may sell his shares and minimise his future losses but a policyholder cannot do so. It is not easy for a policyholder to withdraw from an office because apart from the financial disadvantage, he may have become impaired in health or an adverse

feature may have crept in in his family history. Due to these changes, he may find himself uninsurable. Further, life insurance is of such a great importance that its benefits must be made available to all classes and strata of Society. Taking into consideration all these factors, it is clear that this is the business which is fit for being nationalised. If it be not possible to nationalise it now, at least all necessary steps should be taken to make nationalisation possible and easy at a later stage.

The funds in the hands of a life office are the savings of the policyholders and the position of a life office generally and of its directors particularly is that of Trustees. Trustees cannot be permitted to utilise trust funds in their hands for their personal purposes or to aid their personal financial ventures. This principle was recognised in 1937 and by Section 29 of the Insurance Act, giving of loans by a life insurance company to its directors and officers, or to concerns where some or all of its directors, and or officers were directors or officers, was stopped and even the then existing loans were required to be repaid within one year failing which office was required to be vacated. Unfortunately, however, the provision then made was not so comprehensive as to prevent the funds being used by directors or officers for buying shares and debentures of a company, where they were interested. Funds of life offices are being, in some cases, used to finance the Companies started by the Directors and in some cases, for purchasing majority of shares of other companies for gaining controls. This feature of the investments of a life insurance company is not in the best interests of the policyholders. It is essential that this practice must be stopped.

With the above object in view, it is necessary that rigid control must be exercised over the investments which a life office can make in the shares or debentures of other companies. In my opinion, no company carrying on the business of life insurance, should be allowed to hold more than ten per cent of the capital, including debentures stocks if any, of any other company and no company should be allowed to buy shares of another company to an extent which will give it more than ten per cent of the voting rights of that company. Where, however, the directors or officers of an insurance company are directors or officers of another company, the insurance office should be prohibited from investing its funds in the shares or debentures of that company and if some of the directors and officers of a life office are directors or officers of a bank, the life office should not invest funds even in deposits for fixed term or current, beyond a nominal percentage of the capital of that bank. Objection may be raised by some persons to these recommendations on the ground that there are some very good companies, shares of which offer a good source of investment and to prohibit investments in the shares or debentures of such companies because some directors may happen to be common, will deprive life offices of a good source of investments. My objection is to the furthering of financial ventures of directors and not to investments. I, therefore, do not object to exception being made to the rule where at least the following conditions are satisfied :—

1. The other company should have been in existence for a period of at least 15 years.
2. The other company should have given a dividend on its ordinary shares at a rate not below 5%, at least for ten years continuously before the date of purchase.

The limit of ten per cent referred to hereinbefore should, however, be applicable to all cases.

Life Offices which handle the funds of the people should be broad based Its management should be such that in the event of mal-administration, it should

be capable of replacement. The holding of majority of shares by an individual or groups of individuals acting together is not a happy state of affairs and cannot be in the interest of the policyholders.

Of late there is a tendency towards the shares of life insurance companies being concerned and majority shares being held by individuals or groups of persons working together. The capital of a life office being small, it is easy to pay fancy and tempting prices to buy shares, because the total outlay, even if the purchase is effected at abnormally high prices, will not be very large. This move is a real danger to the policyholders whose savings are in the hands of a life office. Realising the gravity of the situation, it has been recommended by the committee to restrict voting rights. This recommendation has my wholehearted support. But I do not agree with my colleagues when they say that the face value of the shares should be Rs. 100/-. If the face value of the shares is allowed to be kept at that figure, the number of shares in the case of several companies will be small, and in such cases, it will be possible to control the votes and continue to dominate over the companies. My fears are that unless the face value of the shares is reduced to Rs. 10/- the very object which is sought to be achieved by recommending the restricting of voting rights will be nullified. No new company should be allowed to have shares of more than Rs. 10/- and all existing companies should be required by law to change the capital structure and reduce the face value of every share to Rs. 10/- and the shareholders should be allotted proportionately larger number of shares keeping the percentage of uncalled capital to the face value of the shares the same.

The Committee has recommended that a limit should be imposed on the portion of the surplus which can be absorbed for giving dividends to the share holders. The profits which accrue to a life office are not mainly the result of its working. Substantially large portion of the profits is due to the contributions made by participating policyholders who insure under participating plans. The premiums charged for participating policies make a provision for a certain amount of bonus being given to the policyholders. This contribution, to a very large extent emerges in the surplus. To give a percentage of this surplus to the shareholders as dividend is to make the shareholders keep with them a part of the premiums paid by the policyholders. Justice and fairness demand that the valuating actuaries should be asked to deduct from the surplus the amount which would be necessary to give to the policyholders the bonus for which they have paid and the shareholders should be entitled to the dividends out of the surplus so left. The second point that arises is what portion of such surplus should be allocated to the policyholders. The recommendation that ten per cent of the surplus be given is penalising the policyholders very much. ' The fair proposition would be that the profits so arrived at should be shared between the shareholders and the policyholders in proportion to their funds. After all, the profits accrue due to the working as a result of the funds which a life office has. Shareholders do not contribute to the profits in a proportion higher than the proportion which the capital bears to the policyholders' funds and as such the shareholders should be entitled only to that percentage of the profits which their capital bears to the life fund. The question incidentally will arise as to what should be the capital of a company for life business if it is also transacting some other form of insurance business. For non-life insurance companies, bigger capital is required and some of the companies have very huge capital. Rs. 10 lakhs as capital is much more than what a life office needs. A company like the "Oriental" has a fully paid-up capital of six lakhs. It is necessary that provision should be made that for the purposes of fixing the shareholders' portion of the profits, capital in excess of Rs. 10 lakhs be ignored and in the case of composite offices only that portion of the capital be taken into consideration which is ear-marked for life business but not exceeding ten lakhs.

Recommendations have been made that the overall expense ratios of the companies should be fixed by law and it has also been recommended that the rates of commission which are paid to the agents may be reduced and some limitation should be imposed on the commissions payable to the Chief Agents. Unfortunately, I do not agree with these recommendations. I do not deny that it is essential for every office to work economically and not to spend beyond the margin provided for the purpose of expenses in the premiums. The premiums charged by a life office are prepared on certain assumptions regarding mortality which it expects to experience in the future, the rate of interest it will be possible to earn and the expenses which are likely to be incurred. These assumptions do not relate to the experience for any one year. The assumptions are based on the experience which an office is likely to have for a fairly large number of years. If by legislation, expenses of life offices are fixed, it will amount to changing the very basic conception on which life offices work. It will make the work of life offices depend on the basis of an individual year rather than on the average of the experience of a long duration. For this reason, I feel that fixing the overall expense ratio is approaching the problem in a manner which is contrary to the basic principles of the business. The proper test to ascertain whether a life office is working on the right lines or not, is to judge its actuarial valuation. The Act, as it stands at present, gives enough power to the Superintendent of Insurance, to interfere and ask for new valuation of an office, if he is not satisfied with the one filed. My colleagues on the committee have not shown that the position of the life insurance companies today is so bad as to necessitate a change in the law or to take other steps to safeguard the interests of the policyholders. If reference were to be made to the latest blue book, one will find the valuation reports of 123 companies. The valuations show divisible surplus in the case of 22 companies, surplus without distribution of bonus in the case of 41 companies and deficit in the case of 60 companies. The previous valuation of these companies showed divisible surplus in the case of 64 companies, surplus without distribution of bonus in the case of 31 companies and deficit in the case of 28 companies. This does not indicate that the position has worsened. The results are due to the strengthening of valuation basis by reducing the rate of interest. In the previous valuations, 23 companies assumed 3½% and lower rate of interest, 50 companies assumed interest higher than 3½% but not exceeding 4% and 50 companies assumed interest at a rate higher than 4%. In the case of current valuations, 80 companies assumed 3½% and lower rate, 39 companies assumed a rate higher than 3½%. but not exceeding 4% and only 4 companies assumed a rate higher than 4%. A study of the expense ratios of the companies for the last five years will also show that there is a marked improvement in the matter of reducing the expenses by the companies. That being so, there does not appear to be any justification for the State to interfere. But even if there was some justification, the proper course would be to strengthen the hands of the Superintendent of Insurance in the matter of forcing the companies to have proper valuations rather than fixing arbitrary percentages of premiums which could be absorbed in expenses. In extreme case of abnormally high expenses, or even heavy adverse mortality power to suspend license may be given to the Superintendent.

The recommendation that the remunerations payable to the Chief Agents should be limited by law is not a correct approach to the problem. There are two well known systems of developing the organisation and the business of a life office. One is through paid employees which may be named as branch system and the other is to organise the business with the help of Chief Agents. Substantially large number of chief agents carry on the same type of work which is carried on by the branch offices. The only difference between the two is that in the case of branch offices, all expenses are directly borne by the companies themselves and in the case of chief agencies, they are paid certain percentages of the

premiums as commissions and other remunerations and they are required to meet all the expenses out of the payments made to them. To limit the chief agency commissions without imposing a similar limitation on the expenses which the branch offices can incur and or the companies may incur on behalf of the branches would be discriminating between these two systems.

The suggestion has also been made that some limit should be put on the number of persons who can be appointed as intermediaries between branches and the chief agents on the one hand and the agents on the other. Branch Offices and Chief Agencies usually control big areas. It is impossible for the Branch Officials and the Chief Agents to develop the areas under their control personally. Intermediaries are necessary. There should be no limit on the number of persons which a life office may appoint in a territory. Such a limit will cripple the growth of business. The evil which this recommendation aims to meet is different and its remedy is not what is being recommended. The real evil is that some companies are appointing indiscriminately persons as Employers of Agents under diverse designations. Several of these employers of agents are not bonafide workers. They merely do business personally in the names of dummy agents and earn a rate of commission higher than that prescribed by the law at present. The most unfortunate thing is that companies make such appointments knowing that this amounts to evasion of law. If this evil has to be stopped, and it must be stopped, then the proper course would be to fix some criteria which a man must satisfy before being appointed or treated as an employer of agents. An employer of agents should be given no credit of the business which he does personally or he does through dummy agents. By "dummy agents", I mean the persons who are agents only in name and the real work is done by the employer of agent himself. An employer of agent should be entitled to over-riding commission only if he secures a certain minimum volume of paid for business and this business is done by a certain minimum number of bonafide agents and each such agent contributes a minimum amount of business.

I do not agree with the recommendations regarding the change in the limits of business which can be transacted by insurance companies and the provident societies. There is no justification for raising the minimum limit in the case of insurance companies as the average of the values of the policies issued is still very small and consequently younger and smaller companies will be handicapped in the matter of doing business. Further, mutual companies are nearer to nationalisation than proprietory companies. To impose restrictions on mutual companies will be a retrograde step and I being convinced that the life business should be nationalised, cannot support this retrograde recommendation.

The business of non-life insurance is more like the business of a trading or a manufacturing concern. Non-life assurance contracts are for a short period, usually not beyond one year. The considerations for protection or state aid to such business should be the same which are applicable to ordinary trading or manufacturing concerns. The Government of India has a set policy in this matter. Before any industry is given protection or aid, the Government examines certain important factors. All those factors should be examined before deciding whether non-life business deserves any aid or protection. One of the important consideration for state aid or protection is utilisation of raw material and the employment of a large number of a people and raising their standard of life. In the case of non-life business, there is no raw material and the number of people employed is very small. The rules of the Tariff Association even limit the number of agents that can be appointed by a company. That being the case, I do not understand what justification there is for any protection or state aid to non-life business. I do not agree with the recommendations made by my colleagues that the expenses which a non-life office can incur should be limited. Will the state

legislate for limiting the expenses which Textile Industry or Sugar Industry or other allied industries have to incur ? Whatever limitations have been imposed, are more for the protection of labour, in which term, I include the workers in the factories as well as the persons who grow raw materials and not for benefiting the shareholders of the companies. In the case of non-life business, the benefit which will accrue to the companies by the limitation of expenses will go directly to the shareholders only. Is there any justification for the State to legislate to benefit the shareholders of the Companies ? There can be only one reason to limit the expenses and that is to make insurance cheaper. If the Policyholders have to be benefited, it should be provided that the rates which insurance companies charge from the policyholders at present should stand reduced to the extent to which the expenses of the insurance companies, are reduced by law.

The suggestion has also been made that the State should set up a reinsurance company and absorb that business which individual insurers cannot reinsure either in this country or outside this country. If the State has to set up a reinsurance company for aiding the existing companies, it will be better if the State sets up a company and absorbs all the insurance, rather than take the business which may be given to them by the Companies in this country. I have no quarrel with the companies themselves setting up a reinsurance company of their own and giving their surplus to that company ; but I cannot reconcile myself to the suggestion that the State should enter on a venture to help the companies and utilize the balance of War Risk Insurance Fund for the purpose. There are so many other things which require much greater and more urgent help of the State and the said Fund should be utilized for ameliorating the condition of the people at large.

Notwithstanding the views expressed above, I agree with the recommendations regarding giving the companies the benefit of no income tax being charged on the amounts which they might transfer to reserves, provided it is made clear that if the reserves are utilized for any purpose other than paying claims which cannot be met out of the normal reserves, that amount should attract income-tax.

There are several other points on which my opinion is different from what is stated in the report. But as my disagreement is more in the matter of details rather than about the principles involved I do not propose to detail them here.

(T. C. Kapur)

I must, however, just mention two points : (1) Whilst I am in principle in favour of over-all limitation of expenses, that is to say, commissions and Management Expenses of General Insurance Companies, I am quite convinced that it is absolutely impossible to arrive at any formula which would bear equitably on the large number of Indian General Insurance Companies of different sizes, ages and capital structures, and (2) whilst I certainly approve the setting up of a Committee to study the usefulness or otherwise of an Indian Reinsurance Corporation, and the ways and means of working it, I do not agree with all the reasons given in the Report as to why such an institution should be set up.

(T. M. Sturgess)

I fully endorse the view that a scheme for the compulsory insurance of factory workers is of imperative necessity. The Adarkar Report has no doubt recommended certain schemes of sickness insurance for workers, but the recommendations of the Report seek to cover only a very limited group of workers. Further, the extent of benefits offered is also not wide or comprehensive enough. There is no doubt that for amelioration of the economic condition of the workers we must have comprehensive scheme of unemployment insurance, sickness insurance and also a liberal scheme of workmen's compensation. But even so the death of a working member will always leave the dependants quite helpless and unless compulsory labour insurance is introduced this aspect of the matter cannot be remedied. I would, therefore, suggest that a scheme for compulsory insurance of all factory workers should be introduced, and I feel that a Committee consisting of employers and employees as also of insurers and Provident Societies should be formed immediately to consider the details of such a scheme.

LIMITATION OF EXPENSES.

I am in favour of the principle of limitation of expenses as laid down in the report viz : "No insurer should be allowed to spend more than what is provided for expenses in the premiums received, except that during the first few years of their existence insurers may be allowed to spend a little more but the additional amount should not exceed the provision for bonuses in the premium". But once this principle is laid down and accepted, further piecemeal restriction of individual items of expense become useless. Thus I do not think there is any necessity for imposing limitation (a) on chief Agent's commission (b) of number of intermediaries . (c) of overall expenses not to speak of further limitation of agent's commission. The agency profession is not a very highly profitable profession even now and any further reduction in the agent's remuneration cannot but have prejudicial repercussions not only on the agency profession but on the insurance business itself. The object of limitation of expenses is obviously to see that companies do not indulge in uneconomic expenditure. This will be adequately secured if provision is made on the lines indicated in the beginning.

INVESTMENT POLICY.

I wish to be more explicit on this point and suggest that the insurers should be permitted to invest 25% in Government Securities and 30% in Approved Securities. To give a wider scope for the investment of the funds of Life Insurance Companies the definition of Approved Securities should be enlarged so as to include Head Office Buildings, Trustee Securities and first mortgage debentures of limited companies, as well as the shares of Joint Stock Companies which have regularly paid a dividend of at least 5% in the previous five years.

PROVIDENT SOCIETIES.

I quite agree with the view the existing limit of Rs. 500/-, of the sum assured by the policies which Provident Societies are entitled to issue is too low to enable the Provident Societies to transact their business economically and that this limit should be raised. But in my opinion instead of raising this limit to Rs. 900/- and as a corollary raising the lower limit for the insurers to Rs. 1000/-, the maximum and the minimum limits for Provident Societies and the Insurers—be it Proprietory, Mutual or Co-operative—respectively should be raised to Rs. 1000/-.

Regarding investment provision of Provident Societies, it should be laid down that 50% of the assets are to be invested, in Approved Securities as per

new definition for the purposes of Section 27 suggested above and the Act should be amended accordingly.

(Ashutosh Banerjea)

While every one will concur with the view that Life Assurance Funds are virtually trust monies and as such should not be controlled by persons who do not have any regard for the interests of policy-holders, I cannot bring myself to believe that the suggestion made to restrict voting rights is in any way a solution of the problem. In this minute of dissent I cannot discuss the benefits that have accrued to Insurance business by the existence of a share capital and the interest taken by shareholders to strengthen the business position. In that the Committee do not recommend the abolition of shareholders and nationalization of Insurance, it follows that they consider the continued existence of shareholders as an important instrument in the development of insurance business. It is understandable to provide the necessary powers to deal with a bad management but to sterilize the surplus shares over the prescribed maximum is, I fear, inequitable. In the case of the Reserve Bank, to which reference is made, in the report, the shareholders subscribed to the shares with the fullest knowledge of restrictions on their voting rights. Application of such restrictions to the existing body of shareholders, is in my opinion, unfair. The Committee have appreciated the increased rights that this restriction of voting rights would provide to the minority shareholders, but the suggestion mooted for dealing with those who misuse such increased rights are cumbersome and in practice not easy to give effect to. Taking all points into consideration I am not convinced that there is a strong ground to depart from the existing principle of 'One Share One Vote'.

A legal restriction on dividends may become necessary only when it is found that companies are distributing a big proportion of the surplus to their shareholders. We all know that 'Bonus' has become a luxury and may remain so for an indefinite period. I agree with the recommendation that no insurer can utilize more than 10% of the surplus for the benefit of shareholders, but do not see any need, particularly in the prevailing circumstances, for suggesting progressive reduction.

(K. M. Naik)

COMPULSORY INSURANCE OF FACTORY WORKERS.

In any social security plan the sickness and unemployment insurances may be taken up by the Government but the regular Life Insurance business should be left to private interprise in which India is not lacking. Group Life Insurance should be encouraged even by compulsion in factories for which all Indian companies registered under the Indian Insurance Act should be qualified.

INSURANCE PUBLICITY.

It is true that India has the lowest per capita insurance amongst all civilized countries of the World. The Society on the whole benefits if the per capita insurance is increased. The State also therefore should play its part in popularising life insurance. This publicity cannot be compared with the sale of tea or coffee, because insurance is a social service also. It should therefore be suggested that the State should bear the expenses of the publicity work for which a special Committee may be appointed.

LIMITATION OF EXPENSES.

I do not agree with the view expressed in the report on page 7 stating that " ....insurers barring a few exceptions have only discovered methods to evade the provisions of Section 40 by appointing a large number of intermediaries between the agents and the insurers." I further say that any limitation on the lines of the New York State Act will not be practicable in India. If in view of several new companies having come into existence after 1939 or for any other reasons it is found necessary to have limitation of expenses, the details have to be settled with interests concerned. The position as regards non-life companies is quite different and I agree to the suggestion made.

PROVIDENT SOCIETIES.

I believe that in the Scheme of Insurance Service in India Provident Societies do not fit in. They are issuing generally the same sort of policies as regular insurers but for a smaller amount of Rs. 500 and below. They cannot thrive well under the circumstances even if the amount is raised from Rs. 500 to Rs. 750 or even to Rs. 1000. I therefore suggest that no new Provident Societies should be registered and the existing ones should be allowed to bring more capital so as to become full fledged life insurance companies. For the purpose they may be allowed to amalgamate inter-se or with existing insurers. A time limit of three years should be given to them for the purpose.

(K. C. Desai)

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REPORT

OF THE

INDIAN DELEGATION

ON

CO-OPERATIVE FARMING

IN

PALESTINE

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LIST OF MONETARY AND OTHER UNITS, AND JEWISH TERMS, ABBREVIATIONS, ETC. USED IN THIS REPORT.

CURRENCY :—

LP. = Palestine pound equal to £ 1 sterling.

Piastre = $\frac{1}{100}$ LP.

Mil = $\frac{1}{1000}$ LP.

AREA, LENGTH, WEIGHT AND VOLUME :—

Metre = 39.370147 inches. One mile is equal to 1609 metres.

Millimetre = $\frac{1}{1000}$ metre. 1000 millimetres equal to roughly 39.4 inches.

Kilometre (Km.) = 1000 Metres.

Kilogram (Kg.) = 2.2046 lbs.

Litre = 0.21998 Imperial Gallon.

DUNAM = 0.247 acre.

Hectare = 2.4711 acres.

TYPE OF FARMS :—

MOSHAV — Hebrew name for a private village where every individual farmer farms his land independently and without cooperation.

MOSHAV OVDIM — A smallholders' cooperative settlement or farm where every individual farmer farms his own land but compulsorily sells his produce to and buys his requirements from the cooperative society.

KIBUTZ or KVUTZA — A collective or communal settlement or farm where all members work, eat and live jointly.

MESHEK SHITUFI — A smallholders' collective and cooperative settlement or farm where members work jointly, but eat and live independently.

JEWISH ORGANISATIONS :—

HAMASHBIR — The Palestine Cooperative Wholesale Society Ltd.

HISTADRUTH — Hebrew name for the General Federation of Jewish Labour in Palestine.

J. A. — Jewish Agency, the Centeral Organisation of Jews.

J. F. F. — Jewish Foundation Fund which gives loans to farmers.

J. N. F. — Jewish National Fund which purchases and leases out land for cooperative farming.

P. I. C. A. — Palestine Jewish Colonisation Association, an organisation started by Baron Rothschild for settling Jews in Palestine.

TUNVAH — The Palestine Central Marketing Organisation. (for selling perishable farm produce).

INTRODUCTION.

The Government of India in the Department of agriculture decided in the month of May 1946 to send a Delegation of officials and non-officials to Palestine to study the methods of co-operative farming adopted in that country. The following officials and non-officials constituted the Delegation :—

OFFICIALS.

1. Dr. T. G. Shirname, Deputy Agricultural Marketing Adviser to the Government of India, LEADER.
2. Dr. Girdhari Lal, Bio-Chemist, Indian Institute of Fruit Technology, LYALLPUR.
3. Mr. S. Bal Singh, Fruit Specialist to the Punjab Government, LYALLPUR.
4. Dr. A. G. Riaz, Assistant Agriculturist, Imperial Agricultural Research Inststute, NEW, DELHI.
5. Mr. S. A. Hamid, Department of Co-operation, Government of Bihar, PATNA.

NON-OFFICIALS.

6. Mr. R. Mitchell, Fruit Grower and Manufacturer, Renala Farm, RENALA KHURD, PUNJAB.
7. Kanwar Satyajit Singh, Landlord and Farmer, 'Strawberry Hill' SIMLA.
8. Sardar Chiranjiv Singh Mann, Landlord and Farmer, Kotshera Estate, GUJRANWALA, PUNJAB.

The Delegation arrived in Palestine towards the end of May 1946, and returned to India in the first week of July 1946, after spending about a month in Palestine.

At the request of the Government of India, the Palestine Government made the necessary arrangements for the members of the Delegation to go round the country and study first-hand the organisation and working of the different types of cooperative farms. The immediate arrangements were in charge of the Department of Agriculture and the members of the Indian Delegation wish to place on record their grateful thanks for the assistance rendered by the different officers of the Agriculture and Co-operative Departments. In particular, mention may be made of the willing assistance given and arrangements made by Mr. A Goor, Senior Horticulturist Officer of the Department of Agriculture, who prepared practically the whole of the programe of the Indian Delegation and personally accompained it through the major part of its tour in Palestine. Mr. Jamal Hammad, Senior Agricultural Officer, accompanied the Delegation during the last week of the Delegation's stay in Palestine and guidance was exeedingly valuable in understanding the Arab problems of agriculture. Throughout its stay in Palestine the various Departments and officers of the Jewish Agency, which is the apex organisation of the Jews in Palestine, were exceedingly cordial and helpful in understanding the various aspects of the workings of the cooperative farms in Palestine. In particular the Delegation wishes to put on record the very valuable assistance rendered by Mr. Asculai of the Jewish Agency who accompanied the members of the Delegation during their visits to the various Jewish farms and institutions.

It must be emphasised at the outset that the farming system as adopted by the Arabs and the Jews in Palestine are quite different. The difference is so marked

that the Palestine Government Departments of Agriculture and Cooperation have organised two distinct sections of officers, one consisting of Jewish officers to deal with Jewish viilages and the Jewish farms while the other, manned by Arab officers who look after the improvement work of Arab villages and Arab system of agriculture. Jewish officers accompanied the Delegation during its visits to Jewish farms and Jewish institutions while Arab officers assisted to enable the Delegation to see the organisation and Arab villages and farming. The Areb villages are very similar to villages in India with mud huts, narrow lanes, manure heaps lying about just outside the village area and the common threshing yards. Like the Indian villagers, Arabs lack unity and every village has its own factions. The Arab average farmer, however, is exceedingly kind and hospitable. The Jew is more businesslike. Apart from lack of organisaaion and unity, Arab farming is characterised by plentiful supply of human labour and shortage of capital Further, the land tenure system in Palestine is very complex and as would be described latter in this report, rights in land have not yet been finally settled. Since after the institution of the Palestine Mandate in 1918, the Arabs have not had sufficient time to settle down to the rural economic conditions of Palestine. There was besides the Arab revolt in 1936. There are, however, quite a few instances of private Arab enterprise, where farming is being done on modern lines, but their number is exceedingly small. Co-operative farming, therefore, is not found amongst the Arabs. Though several Arab villages are now having various types of cooperative societies, the progress has not yet reached a stage for the introduction of cooprative farming in any part of the Arab section of Palestine.

The Jews, on the other hand, are very highly organised, socially, economically and politically. The feeling of self-preservation and the ideal of establishing a home in Palestine are by far the most dominant features of Palestine Jews. Everything else is subsidiary. The capital resources are plentiful and cheap. Cooperation is developed almost to the extreme amongst the major part of the Jewish rural population.

This report of the Indian Delegation, therefore, deals with the organisation and working of cooperative farms as developed by the Jews in Palestine. It must be emphasised, however, that it is not intended in the least to cast any reflection on the Arab way of agriculture and rural living The conditions under which cooperative farming has been developed amongst the Jews have been almost entirely lacking in Arab villages. It is for this reason that cooperation in farming has not developed amongst the Arabs to the same extent as amongst the Jews.

Further, the Jewish farmers in Palestine had no old farming traditions to fight about or indigenous ideas to get over. The oldest Jewish farm in Palestine is not more than 65 years old and the oldest collective cooperative farm is hardly 37 years old. The Jews who went in for farming were absolutely new to agricultural pursuits. All the cooperative farms and settlements had the land acquired for them. Expert guidance, continued sympathetic advice and cheap financial resources were abundant. There was besides the Zionist ideal of settling on Palestine land-an ideal for which several Jews have sacrificed their lives. Cooperative farming in Palestine has not, therefore, been evolved out of any old traditional system already in existence. At the same time, it must be emphasised that the present suecess has been achieved by trial and error and through great personnel and financial sacrifice of the early settiers several of whom were murdered or died of virulent diseases like malaria then existing. Even now there are settlements organised in swampy lands where mosquitoes and malaria are considered to be the most deadly enemies.

0 10 20 30 40 Miles
MEDITERRANEAN SEA
SYRIA
LEBANON
Damascus
Tyre
Acre
Haifa
SEA OF GALILEE
Caesarea
Nathanya
PLAIN OF SHARON
Tel Aviv
Jaffa
Lydda
Jericho
Jerusalem
TRANS JORDAN
DEAD SEA
PALESTINE
Beersheba
EGYPT

CHAPTER 1.

SOME AGRICULTURAL FACTS ABOUT PALESTINE.

I. AREA, POPULATION, SOIL AND CLIMATE.

(i) AREA.

Palestine is a very small country with a population much smaller than that of either Bombay or Calcutta. The total area of the country is 10, 429 sq. miles of which 272 sq. miles consist of inland waters of the Dead Sea, Sea of Galilee and Lake Hula. It is bounded on the west by the Mediteranean, on the north by Syria and Lebanon, on the south by Egypt and on the east by Trans-Jordan, with river Jordan in between. The country lies between 29° 30″ to 33° 15″ north latitude and between 34° 19″ and 35° 25″ east longitude.

The total area of the country comes to 26,318,000 DUNAMS of which 1,765,000 DUNAMS or 6.7 per cent are owned by the Jews.

The total cultivated area, however, is reckoned only at 7,120,000 DUNAMS of which 6,353,000 DUNAMS are cultivated by the Arabs and 767, 000 DUNAMS are worked by the Jews. The rest of the land consists of urban areas, forests, unculturable and culturable wastes, swampy lands, rivers, roads, mountains and hills.

(ii) POPULATION.

The total population in 1944 was 1,764,000 of which—

Muslims	...	1,064,000	60.3%
Jews	...	550,000	31.2%
Christians	...	136,000	7.7%
Others	...	14,000	0.8%
Total	...	1,764,000	100.0%

Jewish population in 1946 is reckoned at over 600,000, forming over one-third of the total population, owing to the large rush of immigrants during the past two years. In 1918, the Jews in palestine hardly numbered 50,000.

936,000 or 53% of the total population is classed as rural. Of the total rural population of 936,000, the Arabs (Muslims and Christians) account for 793,000. The Jewish rural population is only 143,000 or 26% of the total Jewish population in Palestine. 74.5% of the total Arab population is rural.

If the total land area of 26,318,000 DUNAMS is divided by the total population, the per capita area in Palestine comes to 15 DUNAMS. The total area held by the Jews comes to 3.2 DUNAMS per capita of the Jewish population.

Similarly, the total cultivated area per capita of the total population comes to 4 DUNAMS. The Jewish cultivated area per head of the total Jewish population comes to 1.4 DUNAMS, while in the case of Arabs the per head cultivated area comes to 5.2 DUNAMS.

The total cultivated area per head of all rural population is 7.6 DUNAMS. The Jewish cultivated area per head of Jewish rural population comes to 5.3 DUNAMS, while the Arab cultivated area per head of Arab rural population comes to 8 DUNAMS.

(iii) SOIL.

Sand-stone and lime-stone are the main geological strata in Palestine. The characteristic red soil which is very fertile, but which is liable to be eroded on slopes, is found in the lime-stone area on and around the hills of Judaea, Samaria and Galilee. It is considered to be very suitable for fruits, vines and olives. The maritime plain with large tracts of sandy or sandy-loam soils, intersected with considerable areas of heavy land, is very fertile and includes the citrus belt of the country. Some of the inland plans such as those found in the hilly Esdraelon and Heleh areas have heavy alluvial soil well suited for growing grain crops without irrigation In the lower Jordan valley, soils suitable for agricultural production are limited to places where sediments cover the marls and also such of the patches which can be leached of salts. The hot climate prevailing in this area enables the growth of tropical crops but only under heavy irrigation. The Beersheba plateau in the south is the largest stretch of plain in the country but it consists of LOESS or wind blown formations. It may give some crop in winter in seasons of sufficient rainfall which is often very small and uncertain and in many years no harvest of any kind is possible.

(iv) CLIMATE.

It is remarkable that such a small country should have such large soil and climatic variations which it is not easy to find even in many Indian provinces much bigger than Palestine. There are certain areas which are suitable for crops and fruits characteristic of the temperate zone, while there are districts excellent for olives, figs, grapes and citrus. There are also distinct areas where excellent crops are obtained from palm trees, bananas, avocadoes and other tropical plants. Even cultivation of mangoes and guavas is being attempted in the tropical portion of the country.

The most striking climatic feature is the occurrence of two distinct seasons, the season of winter rains from late October to mid-April and the six dry months which follow. The following figures indicate the average mean temperature at important places in Palestine :

PLACE	MEAN FOR THE YEAR. F°	MEAN MAXIMUM OF THE HOTTEST MONTH. F°	MEAN MAXIMUM OF THE COLDEST MONTH. F°
Haifa	70	85	48
Tel Aviv	69	90	48
Jerusalem	64	85	39
Jericho	73	103	49
Beersheba	67	92	41

Similar big variations are found in the amount of rainfall received in the different parts of the country as would be evident from the following figures :—

PLACE	Average annual rainfall (1901-1940) INCHES.	Highest annual rainfall during 1926-27 to 1941-42. INCHES.	Lowest annual rainfall during 1926-27 to 1941-42. INCHES.
Haifa	25.4	32.3	13.3
Tel Aviv	22.0	35.2	12.6
Nablus	25.3	41.0	13.6
Jericho	6.1	8.2	2.5
Beersheba	8.8	13.4	5.2

It is estimated that about half the total area in the country is within the zone of 8" rainfall. The extent of availability of irrigation water is, therefore, a great limiting factor in the development of agriculture in Palestine. Apart from the small annual rainfall over a large part of the country, the rains are frequently uncertain and not always well distributed. December and January, normally, account for 45 to 50% of the total annual rainfall. The large amount of dew, particularly in the coastal plan and on the western slopes of the hills, is a compensatory factor of considerable importance and the development of agriculture in this area is to some extent due to the presence of this dew.

II. LAND TENURES AND SIZE OF HOLDINGS.

The system of land tenure in Palestine is complicated and rather bewildering. It is a legacy inherited from the Ottoman regime.

The main types of tenure are MULK, MIRI and KHALI. Mulk means "property" and the land so owned may be called private or ALLODIAL land. It embraces absolute proprietorship and the owner can use or dispose of this type of land freely. The tenure is thus fully transferable and hereditary. The MIRI land is State land and its grant is subject to payment to the State. This payment consists of two parts —(1) the price of land assessed by Government, and (2) the annual TITHE or tax. Till recently the annual tax was based on the productivity of the soil and basically fixed at 1/10th of the gross production The Palestine Government has abolished the TITHE and replaced it by a land tax based on the value of the land. MIRI land could be converted into MULK land with the special permission of Government. Khali is vacant land and consists of tracts which have not been allocated by the State to any interest or individuals. In addition, there are the common village lands used for grazing, forest, etc.

During the Ottoman regime there was apparently no system of registering the claims or rights in land. In consequence, there still exists a large amount of confusion of conflicting claims. Since 1928, the Palestine Government has set up a machinery for enquiring and settling the claims in the land. By the end of December, 1945, claims over 4.8 million DUNAMS of land were settled. The total land area in Palestine is 26.3 million DUNAMS. The carving out of Palestine Mandate in 1918 out of the old Ottoman Empire gave rise to a class of landlords who could not be considered subjects of Palestine as they were or preferred to remain outside Palestine borders. Many scuh landlords sold their lands to the Jews but there is still quite a large number of them who get their lands cultivated by tenants. These considerations indicate that so far as the actual cultivators are concerned, the land tenure system still continues to be uncertain to a very large extent.

The Moslem law is applicable for inheritence of land in the case of Arab Muslims. For other communities the ecclesiastical law of the community to which the owner belongs is applicable. Almost the entire rural land is owned by the Arab Muslims and the Jews. The total amount of land held by the Jews comes to hardly 7% and nearly half of this is held by the Jewish National Fund and is absolutely inalienable. The other half is held by private Jews and other Jewish colonising organisations. The history of the Jews holding land in villages is hardly 60 or 70 years old. There is a strong feeling for consolidation amongst the Jews. The problem of sub-division and fragmentation of holding amongst the Jews has not, therefore, arisen and the Jewish holdings generally consist of compact blocks of just enough size which the farmer and his family can cultivate with their own labour. As a rule, therefore, Jewish agriculture is intensive. The conditions amongst the Arabs are typically oriental. Sense of individualism is very dominant and the system of inheritance results in sub-division and fragmentation of holdings. In consequence, major part of the Arab agricultural system is based on extensive

cultivation. A recent study in 5 Arab villages indicates that the farms are not only small but are composed of a number of fragments as will be evident from the following table :—

FRAGMENTATITION OF FARMS OF RESIDENTS OF 5 VILLAGES.

Size of farm. (dunams)	No. of farms composed of the following number of fragments. 1-2	3-6	7-10	11-14	15-18	19 and over.	Total No. of farms	Total No. of fragments	Area (Dunams)	Average No. of fragments per farm
Up to 5	40	7	3	—	—	—	50	106	115	2.1
6-10	12	18	3	—	—	—	33	115	270	3.5
11-20	9	21	7	1	—	—	38	173	563	4.6
21-40	3	29	20	11	1	4	68	567	2,122	8.3
41-60	1	15	19	9	3	3	50	467	2,483	9.3
61-80	—	3	13	14	5	8	43	585	2,948	13.6
81-120	1	4	12	13	14	8	52	748	5,235	14.4
121 and over.	—	4	17	12	6	30	69	1,402	13,380	20.3
Total	66	101	94	60	29	53	403	4,163	27,116	10.3

It will be evident that the average number of fragments per holding comes to 10.3. It is also clear that the number of fragments into which an individual holdings is divided increases with the increase in the size of the holding.

III. PRINCIPAL CROPS AND LIVESTOCK.

(i) GENERAL.

The most important feature of the Palestine agriculture is the preponderance of human and animal labour and lack of cash capital in Arab agriculture as against abundant capital and smaller use of human and animal labour in Jewish agriculture. David Horowitz and Rita Hinden in their book on "Economic Survey of Palestine" (1938) give an interesting illustration which is reproduced below :

REQUIREMENTS FOR PRODUCING 100 Kg. OF WHEAT.

	No of human working days.	No. of animal working days.	Other expenses. (Mils).
Arabs	5.59	5.73	120
Jews	0.52	0.21	593

The labour income on the Jewish farms is, therefore, high and in consequence, the standard of living of the Jewish farmers is much higher as compared with that of the Arab cultivators. The wage level on the Jewish farms is, therefore, high and this has resulted in greater use of machinery and capital. At the same time it may be noted that though the Arab labcur is cheap, the Jewish cooperative farms are not allowed to engage any outside labour Some Arab labour is used on private Jewish farms but for several years a movement has been in existence to persuade all the private Jewish farmers to engage Jewish labour only.

Taking these considerations into account, agriculture in Palestine can be divided into three distinct sections. The most important section from the commercial point of view is CITRICULTURE based on high capital investments and modern methods of fruit growing. The crop is grown chiefly for export and,

except on the cooperative farms, where hired labour is not employed but which together account only for a small fraction of the total area under citrus, a considerable portion of the farm operations, especially during the harvest season, is done by employing outside labour. The second section is the indigenous agriculture, almost entirely confined to the Arabs, where cereal growing and extensive method of farming predominate. This type of farming is self-sufficient to a high degree, but it results in lower income and lower standard of life as compared with the third section of mixed farming practised by the Jews. It may be, however, noted that several Arab farms, especially around towns, have now taken up intensive methods of agricuiture and do possess excellent fruit orchards, vegetable gardens and a good stock of dairy animals and poultry. Their part in the total Arab agriculture, however, is insignificant. The third section of modern mixed farming, based on intensive cultivation and irrigation is almost entirely Jewish. Production is concentrated on dairy farming, poultry raising and fruit and vegetable growing with some admixture of mechanised cereal growing. The aim of this mixed farming is to use the land to its maximum capacity, without exploiting it to a point of deterioration, provide as uniform employment as possible throughout the year and to raise as many requirements of the farm family as possible on the farm itself. The cooperative farms in Palestine are developed on the basis of mixed farming. The land is publicly owned and the farms are financed largely by Jewish public and semi public funds with the object of creating an agricultural basis for the settlement of Jews on Palestine land.

As cereal growing is dominant in Arab agriculture it is reckoned that more than half of the total income of the Arab agriculture is derived from cereals. On the other hand, the income from cereals obtained by the mixed Jewish farms is hardly 11% of the total.

(ii) CROPS.

The following statement shows the area under different crops in Palestine during 1944-45 :—

	DUNAMS.	PER CENT.
I. CEREALS & PULSES.		
i. Wheat ...	1,378,000	21.68
ii. Barley ...	1,576,000	24.79
iii. Millet (Jowar) ...	753,000	11.84
iv. Others ...	762,000	11.99
	4,469,000	70.30
II. FODDER CROPS.		
i. Lucerne, oat and vetch, vetch and wheat, berseem, maize, hay and others.	226,000	3.56

III. VEGETABLES.		DUNAMS.	PER CENT.
i. Tomatoes	...	80,000	1.26
ii. Onions	...	29,000	0.46
iii. Potatoes	...	28,000	0.44
iv. Cucumbers	...	27,000	0.42
v. Marrows	...	17,000	0.27
vi. Cauliflower	...	12,000	0.19
vii. Others like brinjals, cabbage, garlic, peas, beans, carrots, beets, lettuce, etc.	...	79,000	1.24
		272,000	4.28

IV. FRUITS.			
i. Olives*	...	600,000	9.44
ii. Citrus fruits	...	252,000	3.96
iii. Grapes	...	178,000	2.80
iv. Melons*	...	126,000	1.98
v. Figs	...	108,000	1.70
vi. Almonds	...	38,000	0.60
vii. Apricots	...	20,000	0.31
viii. Apples	...	18,000	0.28
ix. Others like bananas, plums, pomegranates, dates, peaches, pears, etc.	...	22,000	0.35
		1,362,000	21.42
V. TOBACCO.	...	28,000	0.44
	Grand Total	6,357,000	100.00

It is significant to note that more than one-fourth of the area is accounted for by fruits and vegetables in spite of a very low rainfall over a large part of the country and difficulties in getting water for irrigating crops. Growing of fodder for cattle is very largely restricted to the Jewish side of agriculture. The distribution of land under different crops raised by the Arabs and the Jews is shown in the following statement :—

AREA UNDER DIFFERENT CROPS IN ARAB AGRICULTURE AND JEWISH AGRICULTURE.

	ARAB AGRICULTURE.		JEWISH AGRICULTURE.	
	Area in Dunams.	Per cent.	Area in Dunams.	Per cent.
I. Cereals and Pulses.	4,153,000	73.5	316,000	44.7
II. Fodder crops.	30,000	0.5	196,000	27.8
III. Vegetables.	240,000	4.3	32,000	4.5
IV. Fruits				
i. Olives ...	592,000	10.5	8,000	1.1
ii. Citrus ...	132,000	2.3	120,000	17.1
iii. Others ...	476,000	8.4	34,000	4.8
V. Tobacco	28,000	0.5	...	...
Total	5,651,000	100.0	706,000	100.0

It may be noted that so far as Arab cultivation is concerned, almost three-fourths of the land is under cereals and pulses. Olives are more important with

*Under Palestine Agricultural Statistics "olives" are classed under fruits, but melons are classed separately. Olives are almost entirely used for extraction of oil though small quantities are utilised for pickling.

the Arabs than with the Jews. Certain fruits like figs, almonds, apricots, bananas, pomegranates and dates are grown by the Arabs to a larger extent than the Jews. On the whole, the cropping system in the Jewish agriculture is more diversified and is the one where livestock and poultry play an important part. The large area under fodder crops in the Jewish agriculture is significant from this point of view.

(iii) CITRUS INDUSTRY.

From the agricultural point of view, Palestine is known all the world over for its excellent oranges and at least a few details of some of the economic aspects of the citrus industry in that country deserve mention. The citrus fruit is the most important commercial crop of the Palestine agriculture and is by far the most important item of exports of the country. Citrus accounted for 84 per cent. of Palestine's exports in 1935. This proportion was 78.5 per cent. in 1936. The Jaffa (OR SHAMOUTI) orange is well-known all over the world for its juiciness and excellent flavour, qualities almost unknown in oranges produced in India. The cultivation of the fruit extended almost entirely after the formation of the Palestine Mandate. The citrus area in 1923 was hardly 23,000 DUNAMS, which was more than doubled by 1928, Arabs owning about half. Sometime after 1930, the Jews increased their citrus area more rapidly and for a period had more area under citrus than the Arabs. Most of the intensive planting took place between 1930 and 1936. By 1939, the citrus area rose to 293,000 DUNAMS shared almost equally between the Arabs and the Jews, as by that time the Arabs also increased their plantation.

This rapid rise was entirely due to the development of export markets in Europe. In 1920-21, citrus exports totalled 840,000 cases valued at LP. 206,000. In 1938-39 the exports reached a record level of 15,265,000 cases valued at LP. 4,356,000.

With a view to control the quality of exports, the Palestine Government issued in 1927 the Fruit Exports Ordinance which was subsequently amended in 1936 and 1937. According to the provisions of this Ordinance the size of an orange case intended for export was specified and export of all large sizes of oranges of count 100 and downwards to a case was prohibited. Only oranges of sizes smaller than 100 to a case were considered eligible for export. A Fruit Inspection Service was organised to see that blemished fruit was not exported, blemishes being clearly defined. With a view to prevent export of un-ripe fruit, shipments of oranges were permitted only after the 20th November. Export of grape fruit of size 64 to a case was not allowed after 31st January in order to limit shipments to the best sizes only during the months when exports were at the maximum. No grape fruit was allowed to be exported before 1st October and any shipments offered before 15th October was subject to a maturity test. A tax of 3½ MILS was levied on each exported case for the purpose of citrus advertising and research into wastage.

The outbreak of War in 1939, therefore, gave a severe shock to the citrus industry in Palestine. For some time exports ceased almost completely. Meanwhile, it was a problem as to what to do with the harvested fruits. In several cases, the fruit was not harvested at all or was given away for mere picking. It was also fed to cattle. Plantations over about 27,000 DUNAMS were actually uprooted, two-thirds belonging to the Jews. It is further reckoned that over 15,000 DUNAMS were adandoned or neglected. The present area under citrus is estimated at little over 250,000 DUNAMS. The principal citrus cultivation belt is located in the light soil area of the central coastal plain.

A census of the size of citrus gardens conducted in 1942 indicated that

almost two-thirds of the orchards are less than 20 DUNAMS in size as would be evident from the following figures :—

SIZE OF GARDENS.	NO OF GARDENS.	PERCENTAGE OF TOTAL NUMBER OF GARDENS.	PERCENTAGE OF TOTAL AREA UNDER CITRUS.
Under 10 dunams	4,225	37.46	9.01
Over 10 and under 20 dunams.	3,178	28.18	15.77
„ 20 „ „ 40 „	2,137	18.94	21.02
„ 40 „ „ 60 „	756	6.71	13.22
„ 60 „ „ 80 „	357	3.16	8.90
„ 80 „ „ 100 „	234	2.08	7.61
„ 100 „ „ 200 „	314	2.78	15.50
Over 200 dunams.	78	0.69	8.97
Total ...	11,279	100.00	100.00

(The total area under citrus fruit according to this census was 274,000 DUNAMS.)

In spite of the severe shock which befell the citrus industry, the present area of about 250,000 DUNAMS could be retained because of the special steps taken by the Palestine Government, The annual Government tax on citrus orchards is LP. 4 per DUNAM. This has been temporarily remitted. In cooperation with the principal banks the Palestine Government arranged in 1940 loans to owners of citrus gardens with the object of keeping the gardens alive during the War period. The average rate of this loan in 1940-41 was LP. 2.6 per DUNAM which was raised to LP. 3 per DUNAM in 1941-42 and to LP. 4 per DUNAM in 1942-43. Since 1943-44 the rate was further increased to LP. 5 per DUNAM. By the end of 1945-46, therefore, the total loan received was LP. 24.6 per DUNAM. These advances were initially guaranteed and are now taken over year by year by the Palestine Government. By the end of 1945-46 the total sum advanced came to LP. 3,658,760. The recoveries made by the end of October 1945 totalled LP. 328,765. The rate of interest charged is 3% per annum.

Almost simultaneously, steps were taken by the Government to organise a CITRUS CONTROL BOARD in 1940. The Board consists of officials and non-officials appointed by the High Commissioner. It has wide powers for regulating the area under citrus and laying down rules for picking, packing, handling and inspection of the fruit. It has also got powers in a variety of other matters affecting the exports of citrus. The Board was not, however, empowered to undertake the actual marketing of the fruit.

Almost a year after the Board was organised, it was felt that marketing also required regulation with the object of sharing, as equitably as possible, the difficulties caused by the stoppage of exports due to the War. A CITRUS MARKETING BOARD consisting of officials and non-officials was, therefore, set up in 1941 to take such steps as may be deemed necessary to control and regulate the merketing of citrus fruits and products thereof. Since its organisation the Board has been administering schemes with the object of securing a fair division of marketing possibilities amongst all growers and to fix minimum prices for fruit for sale to various destinations and for fruit for sale in bulk to factories in Palestine for manufacturing citrus products. According to the scheme, persons or organisations

wishing to export, have to apply to the Board for provisional approval, such approval being based mainly on the past trade and business standing. All growers are then asked to link their planted area for disposal of the crop with one of these provisionally approved exporters. An exporter is not confirmed as such unless a specified minimum area is linked with him. Growers who had linked with an exporter who was not finally confirmed were advised to re-link with one of the exporters who had qualified by obtaining the specified linked areas. The confirmed exporters are then told to arrange themselves into 24 contracting groups, 12 for Arabs and 12 for Jews, to facilitate the signing of contracts for sale and handling of orders generally. The distribution of sale orders amongst the 24 contracting groups is done by the Board itself. Each exporter is held responsible to the growers linked with him and pays returns due after deducting charges and exporter's commission, which are fixed by the Board. Committees of Supervision and Boards of Arbitration have been organised to see that every grower gets a fair deal. The Board also undertook other activities like centralised purchase of packing materials. It is remarkable that in spite of this control, Palestine has not yet evolved statutory grade standards for citrus and citrus packages. In the case of Jews, however, cooperatives play a very important role in marketing of citrus and over three-fourths of the total Jewish production is sold through these cooperatives which have built up their own standards for quality.

The stoppage of exports during the War, however, resulted in a very rapid development of factories for manufacturing fruit products. In 1929 there were only a few manufacturing concerns producing fruit products of which only one was a big factory. The total quantity of citrus fruits used for manufacturing purposes at that time was only a few hundred tons. In 1945 the number of factories, including small scale enterprises, increased to 43. Out of these, two belonged to Arabs, one was jointly owned by Arabs and Jews and the rest were entirely Jewish concerns.

The extent of increase in the manufacture of citrus products can be easily imagined from the following figures:

CITRUS FRUITS CONVERTED INTO BY-PRODUCTS IN PALESTINE.
(TONS).

YEAR.		TOTAL CITRUS FRUITS USED. (Tons).
1937-38	...	5,500
1938-39	...	5,000
1939-40	...	7,000
1940-41	...	13,000
1941-42	...	55,000
1942-43	...	50,000
1943-44	...	55,000

At present, the manufacture of concentrated citrus juices which are exported to Europe, mainly to the United Kingdom, is on the increase and drinking of fruit juices seems to have become a habit in Palestine. The industry has in hand several projects for manufacturing citrus oils, pectin and alcohol with the object of utilising factory wastes like fruit pulp and peel which have not been so far given due attention.

Some of the factories are also canning vegetables and other fruits. The total manufacture of different fruit products in 1945 was estimated at about 15,000 tons

of squashes, juices and canned fruits, 1,400 tons of canned vegetables, 12,500 tons of jams and a little over 1,000 tons of concentrated citrus juices. Sugar was the limiting factor in production.

Wine grapes are almost entirely produced on Jewish farms. The growers of this type of grapes have organised themselves into a cooperative society for the purpose of manufacturing wines and liquors. This society is operating 2 cellars where different types of excellent wines and liquors are manufactured and sold not only in Palestine but also exported to other countries including India. The society gives advances to the growers up to 60% of the delivery in the previous year and the balance after the close of the society's year. The wines and liquors manufactured in the society's cellars may be sold any time 3 to 8 years after manufacture according to time taken for maturing. The grape producers, however, are paid for deliveries of grapes during a year on the basis of sales of wines and liquors by the cooperative cellars during that very year. Regular records are maintained in regard to deliveries given by different producers indicating not only the weight delivered but also the approximate sugar contents of each delivery, variety and the prevalent price of wine and liquor for the manufacture of which the deliveries may be useful. The cooperative society stipulates to every producer a programme of delivery to the wine cellars and it is compulsory that all members producing wine grapes shall deliver all their production to the society. As a matter of fact, wine grapes being unsuitable for table purposes have no other alternative market. The total quantity of wines and liquors manufactured in Palestine is at present estimated at 1.5 million gallons in a year.

(iv) LIVESTOCK.

The livestock population in accordance with the data collected at the census carried out in 1942-43 was as under:

	ARABS.	JEWISH.
Cattle	219,400	28,400
Sheep and goats (Over 1 year) ...	539,500	29,000
Camels	33,200	Nil
Horses	16,900	2,200
Mules	7,300	2,500
Donkeys	105,400	2,300
Pigs	12,100	Nil
Total	933,800	65,300

Correlating these census figures with the area under crops, it is significant to note that there is 1 head of cattle for every 26 *dunams* of crop area of the Arabs as against 1 head of cattle for every 25 *dunams* of the Jewish crop area. The Jewish agriculture has 100 *dunams* under fooder crops for every 14 heads of cattle, while in the Arab agriculture, for every 100 *dunams* of fodder crops there were 730 heads of cattle. The Arabs had 9.5 sheep and goats per 100 *dunams* of crop area as against 4.24 with the Jews. Horse is the main draught animal in Arab agriculture. Frequently, even mules are used for this purpose. Camels are used for carrying heavy loads while donkeys are used in the rural areas for riding. The small number of pigs are owned by a few Christian farms.

Animal husbandry has played a role of greatest importance in the rapid and progressive development of agriculture in Palestine during the past 10 years in

particular. During the last War, imports of meat, poultry, eggs, dairy products and other animal husbandry produce, almost ceased and, in consequence, the importance of animal industry in the country enormously increased and contributed very largely to the welfare of the country. This rapid development, however, was almost entirely confined to the Jewish portion of the Palestine agriculture.

The actual composition of the cattle populatian varies with the Arabs and the Jews. Excepting in the immediate neighbourhood of towns, the Arab cattle are derived from the indigenous stock reared under primitive conditions of lack of pastures and proper feeding. A few Arabs near towns are now keeping some Dutch breeds of cattle. The Jewish cattle, on the other hand, consist principally of graded stock of Friesian cross and is maintained under modern conditions. The total estimated yield of milk in Palestine, including the milk of the sheep and goats, is something like 120 million litres or 27 million gallons per annum. Half of this quantity is produced by the Jewish dairy industry from approximately 16,000 milking cows.

The Jewish milk production is reported to be increasing at the rate of 11% per annum. No such increase is reported with the Arab milk production. The average milk yield of a Jewish cow in Palestine exceeds the average milk yield of a cow in the U. K. by nearly 50%. The dairy industry with the Jews has progressed so rapidly during the past 15 years that it ranks next to the citrus industry in importance in Palestine agricultural economy. About 40% of the total cash income (obtained by sale of surplus produce) of the Jewish mixed farms is accounted for by the dairy industry.

Sheep and goats form an important part of livestock economy of Arab agriculture. The value of these animals lies in the production of meat, particularly young fat lambs and kids and of milk which is largely used for the manufacture of simple products like indigenous cheese, LEBEN (kind of curds) and small quantities of butter. During the past ten years Jews have been taking considerable interest in the development of sheep and goat husbandry. By careful selection for milk yield, a marked improvement in the local sheep of one type of breed has already been made. Considerable progress has also been made by breeding goats for milk production.

The poultry industry also has considerably developed. According to 1943 census the total number of cocks and laying hens in Palestine was 1,890,213 as compared with 995,819 in 1937. Of the total poultry population, 600,000 birds are raised on modern farms owned almost entirely by the Jews who have specialised in rearing White Leghorns. About one-fifth of the total cash income of Jewish mixed farming is derived from poultry and eggs. Excepting in a few cases near towns, the birds kept by Arabs are from the local or indigenous breed. The total annual egg production in Palestine is estimated at 120 millions.

CHAPTER 2.

HISTORY OF DEVELOPMENT OF COOPERATIVE FARMING AND OF ORGANISATIONS AND SERVICES BEHIND IT.

There is not the least doubt that the organisation and working of cooperative farms in Palestine can be safely called "a romance of cooperation". Every impartial visitor has got the highest praise and admiration for the institutions. Henry A. Wallace called them as "the most exciting experiment in the world". The description of the working of completely cooperative or collective or communal farms, which are in majority, would seem unbelievable. It is, therefore, considered that before proceeding to discuss these cooperative institutions, it would be

desirable to give first a brief account of the history of Jewish colonisation in Palestine and of the various important services organised by the Jews for that purpose, in order to appreciate fully the development of cooperative farming in that country.

I. TYPES OF JEWISH FARMS IN PALESTINE.

There are three distinct types of farming organisations developed amongst the Jews. They are :—

(1) MOSHAVA (PL. MOSHAVOT).—These are private settlements or villages where every farmer works and lives in his own independent way. The land belongs to the farmer.

(2) MOSHAV OVDIM (PL MOSHVEI OVDIM).—These are the smallholders' cooperative settlements. Here the land belongs to the Jewish Nation and is leased out to the smallholder for a long period of 49 years. Every farmer has got his own allotment of land which he cultivates independently, either partially or wholly. It is compulsory that all the surplus produce shall be sold through and all the farm requirements shall be purchased from the cooperative society organised for the settlement as a whole. "

(3) KIBUTZ OR KVUTZA (PL. KIBUTZIM, OR KVUTZOT).—These are the collective or communal settlements. Here also the land belongs to the Jewish Nation and is leased out to the settlement for a period of 49 years. In this type, the farm is worked jointly by all the members, there is a common purse, common kitchen and common educational and other arrangements for the settlement as a whole. All the requirements of individual members are provided for by the settlement.

The development and working of each of these types would be discussed later.

II. EARLY HISTORY.

The Jewish movement for establishing a national Home in Palestine is as old as history. It perhaps began about 4000 years ago when Abraham tried to establish a home for the Jews on the land of Canaan. Subsequent history extending over at least 3000 years repeats the periodical efforts made by the Jews to establish themselves in Palestine. But the movemenf began to take some definite shape only in the later half of the 19th century. Perhaps the first purchase of Palestine land by Jews was made in 1855 when Moses Montefiore purchased a piece of land near Jaffa. In 1870 Charles Netter founded an agricultural school named Mikveh Israel on behalf of the Alliance Israelite Universalle of Paris with the object of training Jews in agricultural science and practice so that they could settle as farmers in Palestine. Several individual efforts were subsequently made to settle on Palestine land.

III. PALESTINE JEWISH COLONISATION ASSOCIATION (P.I.C.A.).

But the first organised effort in colonising the Jews on Palestine land was made in 1882 by a Baron Edmund de Rothschild who can be rightly called the father of Jewish colonisation in Palestine. He not only bought lands for the colonisation of Jews but also arranged for their training and secured the services of experts in vine culture and orange plantations from the south of France. The organisation built up by him is known as the Palestine Jewish Colonisation Association (called PICA) and is still in existence. During the 63 years of its existence it has secured some 450,000 DUNAMS of land and established some 40 Jewish settlements with a population of over 50,000. It is reckoned that something like LP. 15 millions have been spent by this

organisation on agricultural settlements in Palestine. The basic idea of the Rothschild system was to create a class of farmers who, as owners of their farmstead, would constitute a peasant class attached to the soil. The farmer was required to pay only a small proportion of the initial investment for land, buildings, livestock and equipment. After repayment of the relatively small debt on which interest at 1 to 3% was charged, he became the proprietor of the land. About two-thirds of the total area acquired by the PICA has already been so acquired by individual farmers. In recent years, the PICA has also taken up the work of organising collective or communal cooperative settlements on its land and about a dozen settlements have been so organised.

When the Jews first came to settle on Palestine land, conditions regarding safety to life and property were not quite favourable. They, therefore, lived and farmed the land in groups. Common arrangements were made for guarding property, with mutual aid in times of difficulty and illness. Foundations for cooperative or collective effort were, thorefore, laid during this period. But later, conditions settled down and the Jewish farmer began to live and work independently on his own land. During the early years of the present century there was a large immigration of Jewish youth from Russia and Central Europe. They had no money and had to undergo struggle in finding work on the then existing Jewish farms which preferred to employ Arab labour which was cheap. In their struggle to find work, the young Jews formed themselves into groups.

The PICA and another organisation, the Jewish National Fund, formed by the Jews, started training farms to help these groups of young people to work as labourers. Trained agricultural officers were appointed to guide the work of the youth. These officers, however, treated the young Jews as mere labourers and there were differences between the labourers and the officers. The labour group on the Jewish National Fund training farm at Kinnreth appealed to the Jewish National Fund to get itself free from the intervention of the agricultural officer and requested for allocation of an independent piece of land. As a result, the first collective settlement was organised at Degania in 1909.

IV. THE JEWISH AGENCY.

The period from 1882 to the outbreak of the first World War witnessed a large exodus of Jews from Europe and a more successful Jewish colonisation in Palestine. During the whole of this period the Jews were more intensely persecuted, more especially in Russia. More than three million Jews were estimated to have left Eastern Europe and very largely migrated to the U. S. A. Some went to England, Canada, South Africa and Palestine. The World Zionist Organisation created in 1897 by Theodor Herzl took up as its main object the question of settling Jews on Palestine land on an intensive and organised scale. The Fifth Zionist Congress which met in 1901 established the Jewish National Fund (KEREN KAYEMETH) for the purpose of raising funds for acquiring land in Palestine as the inalienable property of the Jewish people. The World Zionist Organisation established in 1908 a Palestine office at Jaffa to supervise the settlement of Jews in Palestine. By 1919, the Jewish National Fund had acquired 22,363 DUNAMS of land. The right of the Jews to establish a home land in Palestine was recognised during the First World War and the Balfour Declaration of 1917 stated—

" His Majesty's Government view with pleasure the establishment in Palestine of a National Home for the Jewish people and will use their best endeavours to facilitate the achievement of this object, it being clearly understood that nothing shall be done which may prejudice the civil and religious rights of the existing non-Jewish communities in Palestine or the rights and political status enjoyed by the Jews in any other country".

The Palestine Mandate provided for the recognition of the Zionist Organisation as a public body for the purpose of advising and cooperating with the Palestine Government in such economic, social and other matters as may affect the establishment of Jewish National Home and the interests of the Jews in Palestine.

These measures resulted in an intense influx of Jewish immigrants into Palestine. The Zionist Organisation re-organised and strengthened its financial institutions. In 1920 the Jewish Foundation Fund (KEREN HAYESOD) was created for giving long and short term credit to Jews settled on Jewish National Fund land. The rapid development of the present day cooperative and collective farms in Palestine has occurred after 1920 but the greatest surge occurred after the Jews began to leave Germany due to their persecution by the Nazis.

The World Zionist Organisation created in 1929 the Jewish Agency as a public body to represent Jews of all sections The new body was recognised by the Palestine Government in 1930. The Jewish National Fund and the Jewish Foundation Fund became the financial institutions of the Jewish Agency, the first as the national owner of the Jewish land and the second as the body giving finance for the working of the Jewish Agency and credit to the various agricultural and non-agricultural settlements of Jews. The Jewish Agency has its head office at Jerusalem and has also organised offices in London, Paris, Washington and Geneva. The head office at Jerusalem is housed in an imposing large building owned by the Jewish Agency. It has its own secretariat with nearly two dozen deparments, the more important of which are the Political Department, Immigration Department, Department of Agricultural Settlement, Department for Middle Class Settlement, Agricultural Research Station and College, Department of Trade and Industry, Department of Labour, Economic Research Institute and the Department for Post-War Settlement of Soldiers.

Some idea about the extent of activities of the Jewish Agency may be obtained from the following figures of its annual budget for the six years ending 1944-45

YEAR.	AMOUNT OF BUDGET. (In LP)
1934-35	329,000
1938-39	500,000
1939-40	620,000
1942-43	1,152,500
1943-44	2,115,000
1944-45	4,000,000

The following were the main budget heads in 1944-45 :—

IMMIGRATION AND ABSORBING IMMIGRANTS :	LP.	LP.
Immigration and Training	360,000	
Assistance to Refugees	230,000	590,000
Housing direct and through Housing Companies	475,000	
Employment	145,000	
Contracting office for the Works in the Plantation villages	25,000	645,000
Central Bureau for the Settlement of German Jews.	—	3,000

	LP.	LP.
AGRICULTURAL SETTLEMENT :		
Development and Consolidation of existing settlements and general budget of the Department of Agricultural Settlement. ...	450,000	
Initiation of New Settlements	350,000	
Investment in companies for promotion of Agricultural Settlements	90,000	
Assistance to Citrus Growers	65,000	
Agricultural Experimental Research Station ...	30,000	985,000
DEVELOPMENT OF ECONOMIC ACTIVITIES IN TOWNS ETC. :		
Budget of the Department of Trade and Industry ...	115,000	
Development of Industries	100,000	
Department of Crafts and Small Trade ...	50,000	
Development of various Institutions in conjunction with Anglo-Palestine Bank, etc. ..	125,000	390,000
ECONOMIC RESEARAH AND PLANNING :		
Preparation of Plans for National Development ...	25,000	
Economic Research Institute	10,000	
Statistical Department	4,000	39,000
Investment in Shipping Company ...		100,000
EDUCATIONAL, CULTURAL AND RELIGIOUS ACTIVITIES :		162,000
POLITICAL ACTIVITIES AND WELFARE OF SOLDIERS AND FAMILIES :		
Political Activities	345,000	
Jewish Agency Offices Abroad	45,000	390,000
Welfare of soldiers and families, Jewish Settlement Police and Disabled Soldiers already discharged	100,000	
Absorption of Ex-Servicemen in Civil Life ...	250,000	350,000
ADMINISTRATION, ETC.		
General Administration	32,000	
Control Institution	2,000	34,000
Various Budgets and Reserve		137,000
TOTAL EXPENDITURE OF JEWISH AGENCY.		3,825,000
EXPENDITURE BY KEREN HAYESOD. (Jewish Foundation Fund).		
Payment of Debts	140,000	...
Propaganda and Administration of KEREN HAYESOD	35,000	175,000
Grand Total ...		4,000,000

The functions of the Jewish Agency are to bring into Palestine as many Jewish immigrants as possible and to settle them in agriculture and other occupations as comfortably as feasible. With that object in view it carries on negotiations with the Palestine Government and gets periodical quotas and composition of immigrants. It arranges every possible assistance, advice and guidance to the would be immigrants and for that purpose the Immigration Department has established offices in the capital towns of almost all important countries in Europe, as well as at ports from where the immigrants embark. These offices not only advise the immigrants but also assist financially in getting passage and passage concessions from shipping companies. Not infrequently, arrangements for passage are made in a manner as would enable a special ship or steamer to be chartered. Assistance is provided to all immigrants en-route to Palestine.

Every candidate immigrant is, however, advised to get himself trained before embarking for Palestine in every type of physical and hard work, more particularly fn agriculture and other occupations open in Palestine. Special organisations called HALUTZ exist for this purpose in the various countries of Europe. These organisations form groups for training on farms founded for the purpose. The training consists of collective work, collective living, learning the Hebrew language and getting accustomed to hard physical work. The period of such training may be anything up to two years. For those who did not get such training or who were refugees from the Nazi regime, training arrangements were made in Palestine and are still in existence.

In most cases the prospective immigrants form themselves into groups. Each group normally consists of men, women and children from the same place or a group of adjoining or related places in Europe. Sometimes groups of young men and women coming from different places but having common political and social views are formed. There have been cases when such groups were formed long before coming to Palestine and straightaway organised an agricultural settlement on arrival in Palestine without getting any training either at the HALUTZ organisations or in Palestine. They have been, however, few and these groups generally consist of middle class people having some financial resources of their own. Amongst them are many who were formerly in their own country, lawyers, physicians, teachers and other professionals, but who are now doing agriculture with their own hand. Groups are also formed on arrival in Palestine. Immediately after a group sufficiently large to organise a settlement of its own is formed and the members of the group considered fit for agricultural pursuits, the Jewish National Fund allocates land for organising the settlement. Normally, no land is allocated to organise a collective or cooperative farm unless the group consists of at least sixty families. This minimum is fixed with the object of avoiding monotony and enabling the social and other common services for the group to be arranged more economically and properly. A larger farm is also considered desirable from the point of view of adopting large scale methods of farming and marketing. The area allotted per family or per unit of man and woman varies and is determined by the amount of probable income just enough to secure a decent standard of living and not more than what the settlers can cultivate with their own labour. The usual scale is 5 to 7 acres of irrigated land and 22 to 30 acres of unirrigated land. If any group is small, others are taken in to make the group sufficiently large to form a settlement. Those who are not in a position to form or join a group are admitted as probationers in the existing settlements.

These pre-settlement groups have to wait sometimes for a considerable period before they can get their allotment of land from the Jewish National Fund and there have been cases where the period of this waiting extended over 4 or 5 years. Small preparatory settlements are organised for such pre-settlement groups, where the group members work on the small farm and also work outside on hire. Arrangements exist for providing the members with outside work. The preparatory

settlements also serve as a training ground for the settlers and all work on the farm is done under the guidance of officers of a special section of the Department of Agricultural Settlement of the Jewish Agency organised for this purpose. The area given to the pre-settlement group may range from 10 to 300 DUNAMS but the average is perhaps 25 DUNAMS. The average number of members in such groups is 25 who work and live on collective basis.

Immediately on arrival in Palestine, the immigrants are housed in the Immigrants' Hostels organised by the Jewish Agency. Afterwards work is provided to every immigrant. Arrangements for education and training of children and young boys and girls are also made. Adults who have had no agricultural training are attached to a pre-settlement group.

The department of Agricultural Settlement is the most important organisation of the Jewish Agency for the actual planning, organisation and working of the various agricultural settlements. Its functions start right from the selection of settlers considered suitable for agricultural work and arrangements for training of those who are new to agricultural life. It has several sections or branches for planning, agricultural research and extension, irrigation, laying out plans and building houses and roads and training of new immigrants. It exercises a general technical and financial supervision on the working of all agricultural settlements organised on the Jewish National Fund land. Immediately after land is allocated by the Jewish National Fund to a group of settlers, the Planning Bureau of the Department makes arrangements for a scientific soil survey and later prepares an elaborate blue-print of the layout of the farm, household and communal buildings, farm buildings and irrigation system. Detailed schedules of cropping schemes with rotations are also prepared. These schedules contain full financial estimates over a period of 5 years indicating, (i) the annual financial requirements for different crops and fruit plantations, (ii) annual requirements for the purchase of livestock, poultry, farm implements and machinery, (iii) capital requirements for constructing and maintaining farm, household and other buildings and roads, (iv) installation and Maintenance of water and irrigation system, (v) contingencies, (vi) maintenance costs of the settlers themselves, (vii) estimates of expenses and income from each of the different farm enterprises and (viii) a calendar of farm operations, as also of labour requirements for non-farm activities. The long-term and short-term financial requirements of the settlement are based on the basis of these schedules and the Jewish Foundation Fund fixes up the credit of a collective settlement or of members of a smallholders' cooperative farm accordingly.

V. AGRICULTURAL RESEARCH AND EDUCATION.

THE AGRICULTURAL RESEARCH AND EXPERIMENTAL STATION organised by the Jewish Agency at Rehovoth is an extensive and important institution embracing activities in all branches of agriculture, horticulture and livestock farming. Scientists well-known in the world are working at the Station. Some of the important sections of the Station are the Department of Cattle Feeding busy with problems of improving dairy cattle, rational feeding of animals with special reference to feeds and fodder locally available, etc.; Department of Plantations dealing with fruit growing and viticulture, devoting particular attention to deciduous fruits; Department of Agricultural Chemistry conducting soil surveys and studying soils and manures, modes of absorption in various types of soils, reclamation of salty lands, chemical composition of cattle feeds, etc.; Department of Farm Economy ascertains from time to time the most suitable planning of the farm enterprise from the scientific, technical, economic and administrative points of view. There are besides other important sections for cereals and seeds, pests and diseases, etc. The Station also runs an Agricultural College affiliated to the Hebrew University, the only University in Palestine. The course is for 5 years, of which two are spent at

the University in Jerusalem, two at Rehovoth and one for practical experience on a farm. The total expenses on the Rehovoth Station during the 24 years ending September 1945 were LP. 529,987. Its activities have greatly expanded and the budget provision for the year ending September 1945 was LP.30,000.

There are besides a number of institutions for training boys and girls in agricultural science and practice. The most distinguishing characteristics of these institutions are that (i) all instruction is given in Hebrew, (ii) every boy and girl must reside at the institution, (iii) all work on the farm, in the living rooms, in the common kitchen and dining hall and other miscellaneous jobs are done by the students themselves, (iv) most, if not all, boys and girls go back to farming after completing the course and (v) the dignity of labour is so firmly established that every member or student of the institution moves about with a confident sense that he or she is as good as any other. All the boys and girls working at these institutions do their work cheerfully and maintain robust and radiant health. The first and lasting reaction on the mind of people visiting these institutions is admiration for the work done by the boys and girls, great sympathy and enthusiasm for agriculture and a feeling as to why such or similar developments should not take place amongst the youth of their own country.

The oldest institution is the MIKVEH ISRAEL AGRICULTURAL SCHOOL established in 1880. It had 430 students in 1946 of whom about a third were girls. The average age of the students is about 17. The qualification for admission is eighth class primary and the course lasts for 3 years. The whole course is very practical and the whole farm of the school extending over 2,000 DUNAMS is worked by the students themselves.

THE KADOORIE AGRICULTURAL SCHOOL at Mt. Tabor was established by the Palestine Government in 1934 for Jewish boys out of a sumptutous donation received from a Jew. This school specialises in terracing on slopping hills and the other land roundabout held by Arabs looks so dry and barren that the school farm with its fruit orchards and forest trees and worked entirely by the students looks like an oasis in a desert.

THERE ARE THREE AGRICULTRAL SCHOOLS FOR GIRLS AT NAHALAL, AYANOTH and JERUSALEM giving practical and theoretical training in all aspects of Palestine agriculture. Since recently a few boys also are being admitted to these schools. All work on the farm, the dairy, kitchen, dining room and the hostel is done by the students, themselves. In 1946 there were 170 students (of whom 40 were boys) at the Nahalal school which was established in 1922 on an area of 500 DUNAMS. The course is for 3 years and the qualification for admission is eighth class primary.

BEN SHEMEN YOUTH VILLAGE, established in 1927, is a remarkable institution in that it admits children between 4 and 17 years of age and imparts a thorough training in agriculture, domestic science, child nursing and village handicrafts. The numper of children in 1946 was over 550. It is a public institution maintained out of contributions received from Jewish public in Palestine and abroad. Many of the children are refugees who have lost everything and these are maintained and educated free by the institution. Children are grouped by ages — 4 to 8 years, 8 to 14 years and 14 to 17 years. The group of the eldest children work in either the Agricultural School or Agricultural Domestic School. Each group lives and eats separately and the management within the group, including kitchen and dining hall duties, cleaning, etc. is done by the students themselves. Seperate blocks of houses are constructed and each block is in charge of a matron. The course in the Agricultural School is for 3 years and students who have completed eighth class are eligible for admission. The number of girls admitted in the school is limited. The

Agricultural Domestic School is meant for girls who have completed the eighth class. The course lasts for 2 to 3 years. All subjects which would make the girl a good farmer's wife are dealt with in this school. The village Trade Workshop gives a course of 2 years to students who have completed eighth class, while the Boarding School for Training in Child Nursing is open to girls over 16 years. A one year practical course in agriculture and domestic science is organised for older students of both sexes who are beyond the school age.

One of the important characteristics of this school is the grand scale on which the Jewish festivals are celebrated by the students. People from distant parts in Palestine come to visit these celebrations and from what the members of the Indian Delegation saw of the Harvest Festival on 4th June 1946, there is not the slightest doubt that the celebrations are worth visiting. The main programme in the Harvest Festival was the offering of the first fruit which consisted of a long procession of girls and boys from the age of 4 upwards, each carrying in artistically made containers (made from material available on the farm), the various farm products, including the hen, eggs, different fruits and vegetables, earheads of grain crops and even young calves and sheep. A huge shield made of green grass and foliage and artistically decorated with select fruits and vegetables arranged to a colour design was very impressive, as carried by half a dozen students. The procession passed through arches made from the various types of agricultural implements held by the students themselves and amidst music played by students. Finally, there was a big cart loaded, but arranged artistically with different farm products. The horses drawing the cart were also artistically decorated. It was a great sight to see the few young boys and girls driving the cart followed by 2 or 3 oldest Jewish farmers with long and flowing white beard. The programme also consisted of a short play from the Book of Ruth followed by supper to all invited guests whose number exceeded 500. The programme undoubtedly created amongst the visitors a very favourable impression and a great sympathy about the farmer and farming.

There are, besides, other training centres like MEIR SHEFEYA YOUTH VILLAGE (1923), PARDESS HANNA AGRICULTURAL SCHOOL (1934), MAGDIEL AGRICULTURAL SCHOOL (1941) and about 10 training farms for girls maintained by the Women Workers' Council and the Women's International Zionists Organisation. The girls' training farms give elementary education in agriculture and domestic economy.

VI. JEWISH NATIONAL FUND (J. N. F.)

Established in 1901, the functions of the Jewish National Fund are to acquire land in Palestine, hold it as a trust of the nation and lease it out only to the Jews for agricultural and other purposes. The most important condition is that all land acquired by the Fund shall remain as an inalienable property of the Jewish nation.

During the first seven years of its existence, the Jewish National Fund confined itself only to the collection of funds. Its land purchase activities commenced in 1907 when it was legally registered in London as an English company. Between 1907 and 1914, it acquired by purchase 16,000 DUNAMS of land on which five agricultural settlements were established. The Balfour Declaration of 1917 supporting the Jews to establish their home in Palestine attracted larger contributions to the Fund and thereafter it acquired large tracts of land as could be seen from the following figures :—

PROGRESS OF PURCHASE OF LAND BY THE JEWISH NATIONAL FUND.

PERIOD.	AREA ACQUIRED.
Upto September 1919	... 22,363 DUNAMS.
October 1919 to September 1929	... 239,277 ,,

FERIOD.	AREA ACQUIRED.
October 1929 to September 1939 ... —	... 211,130 DUNAMS.
October 1939 to September 1945	... 340,379 „
Total	... 813,149 „

By the end of 1945, all the Jews in Palestine owned 1,765,000 DUNAMS. The Jewish National Fund, therefore, owns 46 per cent. of the total Jewish land in Palestine. The remaining is held by the PICA and private individuals. The total area of land in Palestine is 26,318,000 DUNAMS, excluding inland waters. The amount of land held by the Jews, therefore, is 6.7 per cent. of the total land area in Palestine. In 1922 the percentage of land held by the J. N. F. out of the total land held by all Jews was 12, which increased to 27 in 1926, to 33 in 1941 and 47 in 1946.

The funds are raised by receiving donations, legacies and other small contributions from Jews all over the world. Even the poorest Jews have contributed and special arrangements have been made for that purpose. Of these, the Jewish National Fund Box, the Tree-Planting, the Golden Book and festival collections are important. About a million J. N. F. boxes have been distributed in Jewish houses and public buildings in all parts of the world and the total collections through them have been very nearly LP. 1,400,000. Contributors to Tree-Planting at the rate of LP 0.3 per tree partcipate directly in the afforestation of J. N. F. land in Palestine and this source has till now yielded an income of about LP. 1,100,000. The Golden Book is the roll of honour of Jewish people and LP. 25 are charged for each inscription. It has so far yielded over LP. 60,000. During the 44 years of its existence the Jewish National Fund revenue has aggregated about LP. 12 millions derived from contributions made by the Jews from different countries of the world. United States of America have been the most important contributor giving nearly 48% of the donations received by the J. N. F. Great Britain contributed 10.8 %, while South Africa gave 8.8 %. Continental Europe contributed 15.4 % and contributions from Palestine and Canada came to about 8.3% and 3 6 % respectively.

The J.N.F. spent something like LP. 10 millions for purchasing land in Palestine till the end of 1945. This includes 76,000 DUNAMS of land for purposes of suburban, urban and rural housing. In addition, a sum of about LP. 2 millions was for "amelioration" of land or for making the land fit for occupation. This means that nearly LP. 14.75 were spent per DUNAM for acquisition and "amelioration". The purchase price of the land and cost of "amelioration" have obviousliy varied from time to time and from one place to another at the same time. The cost of land given on lease to the various collective and smallholders' cooperative settlements, therefore, varies. It is understood that this variation in the cost of land given for agricultural purposes, including cost of "amelioration" ranges from LP. 7 to LP. 14 per DUNAM.

The term "amelioration" is not clearly defined, but after purchasing the land, the J. N. F. spends just enough to bring the land to a minimum state of cultivability before it is handed over to the settlers. Generally, "amelioration" includes such items as afforestation, clearing the land of stones and scrub, drainage of swamps and excess water, road-making and water supply, at least for drinking purposes. It also includes soil conservation, lay out in the form of terracing and arrangements for contour cultivation. Till recently the J. N. F. also used to spend for laying out irrigation facilities, but this work is now done by specialised water companies organised for the benefit of Jewish settlements.

The income of the J. N. F. on account of rent of land leased out to the various rural, urban and industrial settlements has been so far small, but it has been slowly

increasing since 1939-40. During the whole of the period ending 1938-39, it could collect on account of rent LP. 68,973 only (Rural LP. 23,033, Urban LP. 40,438 and Industrial LP. 5,502). Rents received from 1939-40 to 1944-45 were as under :—

YEAR.	RURAL. LP.	URBAN LP.	INDUSTRIAL LP.	TOTAL. LP.
1939-40	3,806	5,217	3,183	12,206
1940-41	6,410	6,163	3,771	16,344
1941-42	10,478	8,643	6,489	25,610
1942-43	20,194	11,669	7,750	39,613
1943-44	25,288	12,263	7,571	45,122
1944-45	28,996	13,759	9,457	52,212

Payments for rent on J. N. F. land began only recently. Till the end of 1944-45 the total rent received came to LP. 260,080. Up-to-date, therefore, it has got back only 2.2 per cent. of its capital investments in land. From the point of view of provision of land, therefore, the settlements have been very largely subsidised

The J. N. F. holds the land as a trust of the Jewish nation and leases it out only to the Jews. The lease document prescribes the period of the lease at 49 years (a biblical figure of seven times seven), with the option to the lessee to renew it for a similar period of 49 years. The lease is hereditary and can be transferred under certain conditions, but the leased land is not allowed to be subdivided. So long as he uses the land for the purpose for which it was taken, the lessee is free to do anything he likes with his land. But care is taken by the Department of Agricultural Settlement to see that the land is exploited to a maximum extent and in an optimum manner. There have been till now no cases of any misuse of land. All plantations, crops, buildings, implements, machinery, livestock, poultry, etc. on the land belong to the lessee who can transfer by sale or otherwise his right in them to any other person or institution or organisation, but only with the concurrence firstly of the collective settlement or smallholders' cooperative settlement, as the case may be, and secondly of the J. N. F. Such transfer is not allowed to a non-Jew. When the transfer is by sale, the lessee expects to get full value for all the improvements made by him on land, plantations, standing crops and all the immovable and movable property attached to the land.

In a collective settlement, the question of transfer of rights in the land does not arise as the individual member of the settlement is not supposed to have any personal property. All the movable and immovable property belongs to the collective settlement organised as a cooperative society and the question of transfer, therefore, could be dealt with by the collective settlement as a whole, if and when such occasion arises. There has been no such instance. In the case of most of the smallholders' cooperative settlements, the J. N. F. land is given on lease to the cooperative society as a whole, though every individual member of the society cultivates his own allotment independently, either partly or wholly. In all such cases, the division of the land given to the settlement as a whole, is made by the society amongst the individual members in consultation with and under the guidance of the expert officers of the Department of Agricultural Settlement. If any member of the smallholders' cooperative settlement wants to leave and get compensation for his rights in his allotted land and for his movable and immovable property on that land, the normal procedure is for that member to find out another Jew as a purchaser. If the terms offered by the purchaser are agreeable to the member, then the whole question goes before the general assembly of the settlement. If the settlement is agreeable to accept him as a member and if the J. N. F. agrees, the transfer

is finally effected. On the other hand, if the outgoing member is not in a position to find out a suitable purchaser, the settlement, as a whole, undertakes to get one, but in such cases, the outgoing member may have to wait for a considerable period of time before he gets his dues. In the case of other types of settlements, *viz.* private villages (MOSHAVA), where the J. N. F has allocated lands to individual members, the transfer becomes effective only with the concurrence of the J. N. F. The assessing of the fruit planations, standing crops and all improvements which a member might have done to land is very complicated and is normally done with the advice of the experts of the Department of Agricultural Settlement.

During recent years, the J. N. F. had to pay fancy prices for purchasing land. With a view, therefore, that the rent charged should be reasonable, the J. N. F. has been very considerate both in the matter of fixation of the value on which rent should be charged and in the actual collection of rent. The basis is not the actual price of land plus the cost of "amelioration". It is an "agreed value" or "adjusted value" which is arrived at on the following considerations :—

(i) The cost price of land ;

(ii) Consideration of what amount of rent the settlement can reasonably be expected to pay ; and

(iii) Consideration of special local factors, *e.g.* fish ponds, nearness to big consuming centres, etc.

The exact relationship between the actual cost of land including "amelioration" and the agreed value is not known, but it is reckoned that the latter comes to about two-thirds of the former.

The rate of rent charged on the basis of "agreed or adjusted value" is as under :—

From 1 to 5 years—A nominal or token rent for legal reasons which varies from 1½% to 1% of the rent which in itself is based at 2% of the "agreed value".

From 6th year onwards—The annual rent is 2% on the "agreed value".

In the 11th year, the "agreed value" is liable to be re-assessed and the revision of rent falls due afterwards at an interval of every 10 years.

Considering the pioneering efforts of the Jewish land settlers and the fact that most of the settlers were new to agriculture, an enormous consideration was shown in the matter of payment of rent. This explains the cause for the rent income of the J. N. F. being so low. Since 1939, however, the progress of payment of rent by the settlements has been very rapid and it is reckoned that except in the case of those which were established during the past 5 or 6 years, most, if not all, of the older settlements have been paying rent regularly.

VII. JEWISH FOUNDATION FUND (J. F. F.)

This was established in 1920 with the object of giving long and short term loans to Jews settled on land of the J. N. F. Immediately after land is given out by the J. N F. for settlement the Jewish Foundation Fund comes in for providing financial facilities to the settlers. The rapid development of settlements during the past 25 years has been very largely due to the liberal financial assistance extended to the settlers by the Jewish Foundation Fund. The institution is the chief financial agent of the Jewish agency and all the various agricultural settlements. Its total expenditure and investments since 1920 to the end of September 1945 were

nearly LP. 20 millions, out of which the investments in agricultural settlements alone amounted to LP-5,892,039 or 29. 5%. The details of the investments in the agricultural settlements are as under :—

	L.P.
Direct investments in settlements by the grant of long-term loans	3,733,973
Investments in settlement and water companies for the development of agricultural settlement	481,489
Expenses and investments on the Agricultural Research Experimental Station, Rehovoth	529,987
Expenses and investments concerning agricultural settlement, such as investments in irrigation and drainage, various public works, road-building, fortification of settlement points, etc.	473,270
Transfers to various institutions, such as : the Central Office for the settlement of German Jews, Wizo-Girls' Training Farms and Jewish National Fund Training Farms ...	399,505
Organisation and training earried out by the Agricultural Settlement Department of the Jewish Agency	273,995
LP.	5,892,039

The sum of LP. 3,733,693 advanced to agricultural settlements was made up as follows:—

110 communal or collective settlements (KIBUTZIM) LP.	2,257,236
57 smallholders' cooperative settlements (MOSHVEI OVDIM)	1,108,037
32 middle class settlements and private individual villages (MOSHAVOT)	330,246
Girls' Farms	38,174
LP.	3,733,693

Regular agreements for debts taken by collective settlements were signed in 1936. At that time the J.F.F. took into consideration the unique pioneering character of the early settlers who paved the way for their successors and wrote off partially the debt given. The total sum so written off came to LP.255,412.

Until the end of September 1945, the communal settlements had paid on account of their debt (principal only) LP.67,965, besides LP.18,218 paid on account of interest.

The sum of LP. 1,108,037 invested in smallholders' cooperative settlements was reduced by LP.239,114 at the time of signing debt argeements. By the end of September 1945, these settlements paid LP.104,632 towards repayment of their debt

Loans to middle class settlements and private individual settlers amounted to LP.330,246. The repayments by the end of september 1945 were LP.68,053 on account of principal and LP.11,245 on account of interest.

The J.F.F. now gives loans almost entirely for long period. Arrangements exist for short term loans to be obtained from Jewish joint stock banks and other

credit corporations. The rates of interst prescribed by the J.F.F. for the long term loans (the period is 40 years or 50 years) for old settlements and 20 or 25 years for new settlements) are as under :—

PERIOD—40 or 50 YEARS.

For first 2 years—1% of principal only. No interest.

3rd year—1½% of principal only. No interest.

4 to 8 years—2% of principal only. No interest.

9 to 10 years—2% on balance (*viz.* 86.5%) of the principal only. No interest.

11 to 50 years—2% interest on the balance of amount and 2% refund on capital.

It is reckoned that at the end of 50 years the J.F.F. expects to receive LP.149.018 for every LP.100 loaned provided repayments are received regularly and there are no remissions. Payments for interest and repayment of loan are to be done half — yearly.

PERIOD — 25 YEARS.

Interest is charged at 2% per annum on the following basis :—

First 6 years — Interest only.

Next 4 years — 2% interest and 2% of principal.

Next 15 years — 2% interest and 2% on the balance of loan.

If payments are received regularly and there are no remissions the J. F. F. expects to make LP. 134.67 for every LP. 100 loaned.

PERIOD — 20 TO 25 YEARS.

Interest is charged at 4% per annum, payments to be made half-yearly.

First 5 years — 4% interest only.

Next 5 years — 4% interest and 2% of principal.

9 to 20 or 25 years — 4% interest and 3 to 5% on balance of loan due.

The J. F. F. expects to make LP. 158,98 for every LP. 100 advanced at the end of 20 years provided there are no remissions and the payments for interest and repayment of loan are regular.

In spite of the low rates of interest and easy terms for repayment of loans prescribed by the J. F. F., the payments made by the cooperative and other farms towards interest charges and redemption of debts have been very small. The total long term loans to the settlements by the end of September 1945 amounted to LP. 3,733,973. This total debt was reduced by nearly LP. 500,000. So far, the total repayments of debts have amounted to only about LP. 241,000, while the total interest collections have been hardly LP. 30,000 It is, therefore, clear that from the point of view of provision of capital also, the Jewish cooperative farms in Palestine are largely subsidised.

For short term credit required by the various cooperative farms, several other financial institutions have been organised by the Jews. The most important of these are the institutions like the Workers' Bank, NIR and Water Companies organised

under the auspices of the General Federation of Jewish Labour in Palestine. The main object of the Water Companies, three in number, is to lay out and operate irrigation installations for the benefit of the agricultural settlements. The Palestine Agricultural Settlement Company, a joint stock concern in which the Jewish Agency and the General Federation of Jewish Labour in Palestine have a predominant voice, advances short term loans for the development of agricultural settlements, erection of water plants, installation of irrigation system, etc. Short term credit is also extended by the Central Bank of Cooperative Institutions in Palestine, Anglo-Palestine Bank, Barclay's Bank and other joint stock banks. The sum advanced by these joint stock banks in 1942 amounted to about LP. 536,000. The rate of interest charged for short term credit ranges from 5 to 7%.

VIII. GENERAL FEDERATION OF JEWISH LABOUR IN PALESTINE.

(THE HISTADRUTH).

This is the most powerful labour organisation in Palestine. Almost three-fourths of the total number of Jewish workers in Palestine are members of this organisation and it has now become the most influential body amongst the Palestine Jews from the social, political and cultural points of view. Members hold and fight for their social and political views and elections of the HISTADRUTH are fought on lines parallel to elections to legislatures. Socialists seem to dominate.

It is called one of the most unusual labour organisations in the world as it not only acts as a trade union and protects wages and rights of labourers but also undertakes or fosters industry and business. It has also organised cultural and social services for the benefit of members.

It has got several branches and its head office is located in a huge building of its own in Tel Aviv. All the collective settlements and majority of the smallholders' cooperative settlements and private Jewish farmers are members of the HISTADRUTH. All marketing cooperatives are also members.

Agriculture, therefore, plays a dominant part in the working of the HISTADRUTH which lays a special emphasis on the development of cooperation in all the economic and social activities of the Jews. It has organised the Workers' Bank Ltd., the BIZUR Ltd. and the NIR Ltd. for giving loans to cooperative farms and other labour institutions. Further, it has under its orbit four more cooperative financing institutions organised on share capital with the object of advancing funds to and receiving deposits from the various types of cooperative societies. The MEKOROTH Water Company working under its auspices arranges the supply of water for drinking and irrigation to the various agricultural settlements.

It has organised Audit Unions for supervising and auditing the accounts of all the member cooperative institutions.

Its contracting organisation, SOLEL BONEH, LTD., is a powerful institution and influences to a considerable extent the building market in Palestine. It is considered to be the financially strongest single economic organisation of HISTADRUTH and apart from undertaking building contracting work on its own account, controls the operations of several other industries like EVEN VE'SID. LTD. (stone and lime works), EVEN LTD. (quarry), HERUTH LTD. (sanitary and electrical equipment), Vulcan Foundries Ltd., Phoenicia Glass Works, HADRION LTD. (factory for citrus by-products), HAMEGAPER LTD. (tyre retreading), HABAG LTD. (brickworks) and SOHAR LTD. (metal works). There are besides three more contracting cooperative societies for undertaking work on contract on farms, mostly on citrus and other fruit plantations.

There are five institutions for constructing houses for workers. Three of these are cooperative societies and the remaining two are companies limited by share capital.

The HISTADRUTH has also organised a cooperative insurance society for cattle insurance and a general insurance company, limited by shares. It has under its purview a limited company for manufacturing fruit preserves.

There are eight cooperative passenger transport societies, fifteen cooperative societies for transporting goods and a number of societies for cooperative taxi service. A central purchasing organisation called NOA LTD. has been set up on share capital basis to serve as a purchasing centre for the transport cooperatives.

Further, there are cooperative societies for metal industry, plumbing and sanitary installations (4 societies), wood manufacture (4 societies), building material (3 societies), clothing and shoes (5 societies), bakehouses (7 societies), kitchens (3 societies), and printing houses (4 societies). There is also a cooperative workers' theatre (OHEL) which stages several plays in Hebrew and provides dramatic coaches to the various agricultural and non-agricultural settlements of the Jews.

The workers' Sick Fund (KUPATH HOLIM) and Unemployment Fund are the most important institutions organised by the HISTADRUTH for giving immediate benefit to the Jewish workers. The Workers' Sick Fund maintains a chain of dispensaries under the guidance of qualified medical men all over Palestine, some hospitals and convalescent homes. The Education Office of the HISTADRUTH coordinates the educational activities of Jews all over Palestine and provides trained teachers. It also arranges other cultural and religious programmes for the benefit of members of agricultural and non-agricultural settlements.

Five publishing companies are working under the direction of the HISTADRUTH. Two of them issue a daily newspaper in Hebrew, while one publishes a monthly on agricultural questions.

All workers of the Histadruth are elected by the members and in almost every case they are members of the Jewish cooperative farms or of other Jewish organisations. Because of the existence of a large number of cooperative and other farms, the agricultural workers dominate in the administration of the HISTADRUTH.

IX. COOPERATIVE MARKETING.

(i) HAMASHBIR HAMERKAZI LTD. (Palestine Cooperative Wholesale Society Ltd).

There is not the least doubt that a substantial part of the success of collective and cooperative farming in Palestine is due to the development of cooperative marketing during the past 30 years. The premier cooperative marketing organisation of the country, HAMASHBIR HAMERKAZI Ltd., was organised in 1916, during World War I, on a very small scale with a capital of only LP. 62 with the object of selling farmers' produce and providing farm and household requisites to farmers. The organisation was based on individual membership, with retail shops for sales to consumers. It was, however, registered as a cooperative society only in 1921. The Society passed through very difficult stages during the first few years of its existence and in 1926 another cooperative organisation, TNUVAH LTD., was formed with the object of selling all perishable farm products like fruits and vegetables, eggs and poultry, milk and milk products, fish and honey produced by the members of collective and cooperative farms. The HAMASHBIR continued and still continues to sell all surplus foodgrains, hay, green fodder and seeds (including vegetable seeds) produced by the members. In 1930 the whole structure

of HAMASHBIR was broken up and re-organished on the consumers' cooperation in England with membership open to cooperative societies, consumers' cooperative stores and other organisations like agricultural training farms, schools and experiment stations, hospitals, etc.

The HAMASHBIR, therefore, acts as a central supplying institution of the cooperative movement in Palestine. It serves consumers' cooperative stores all over the country, as well as the different types of cooperative farms and various other agricultural or non-agricultural institutions of the Jews. It also acts as a selling agency for certain types of farm products.

The membership of the HAMASHBIR consists of collective settlements, smallholders' cooperative settlements, consumers' cooperative stores, agricultural training farms and research institutions and other types of cooperative organisations. During 1945 the total membership was constituted as under :

Collective settlements	179
Smallholders' cooperative settlements	69
Consumers' cooperative stores.	100
Girls' agricultural training farms	11
Agricultural Schools and experiment stations	16
Various other institutions like schools, hospitals and cooperative societies	135
Total	510

Each member society or institution is required to take up shares in proporrion to the size of its membership at the rate of 1 share for every 4 members. The value of a share is LP. 10 out of which only LP. 1 is paid in cash at the time of buying the share. The balance is recovered from the net profits accrued to the member society or organisation from year to year. 50% of the net profits of HAMASHBIR are carried to the reserve and the remaining is divided amongst the member societies in proportion to the business provided to the HAMASHBIR by each member. Half of this net profit due to the member is kept back by the HAMASHBIR towards the payment of the balance due on shares till all the shares held by the member are fully paid up and the remainder handed over to the member society in cash.

Normally, each of the 510 member societies or organisations has got one vote, but provision exists for giving additional vote or votes to important members who contribute large volume of business to the HAMASHBIR. The management of HAMASHBIR rests with the general council of 24 members elected by the 510 members. The general council usually meets once in 3 months. The day to day management of the organisation is carried on by a managing committee of 8 members elected by the general council from amongst itself. The managing committee meets at least once a week. Three of the 8 membere of the managing committee are whole-time employees at the HAMASHBIR. The general body also elects a control committce which apart from exercising a general control on the policy and working of the organisation also arbitrates disputes.

It is compulsory that all members must sell their surplus foodgrains, hay, green fodder and seeds through the HAMASHBIR. If required, the HAMASHBIR advances loans to members up to 50% of the estimated output. It is also

compulsory that all members must buy all their farm requirements and also household needs from or through the HAMASHBIR provided the prices charged are not higher than the ruling market rates. Cases have been recorded where individuals from member societies sometimes bought from outside for getting variety and due to not infrequent concessional terms offered by private traders in competition with the HAMASHBIR. Such outside purchases, however, are mostly confined to personal clothing and footwear to individuals who are not members of collective and cooperative settlements. It is estimated that not more than 25 % of the purchases are made from sources outside the HAMASHBIR.

Since the organisation of TNUVAH LTD., sale of farm produce accounts for a very small fraction of the total activity of the HAMASHBIR and supply of farm requirements and household and other needs form by far the largest business activity of the organisation. The following figures indicate the growth and development of the HAMASHBIR :

GROWTH AND DEVELOPMENT OF HAMASHBIR.

	1931 LP.	1935 LP.	1940 LP.	1945 LP.
Total sales	68,100	272,900	599,500	3,350,000
Paid-up capital and reserves ...	5,700	24,800	110,400	408,000
Net profit	3,270	9,810	25,930	93,800
Dividend paid to members ...	970	3,460	10,420	41,000

The main items of business in 1945 were :—

	LP.
Foodstuffs, fodder for cattle, etc.	2,238,000
Chemical fertilisers	110,000
Seeds and chemicals	145,000
Machinery and spare parts	200,000
Building materials	273,000
Textiles	304,000
Fuel and oils	80,000

The extent to which the different types of cooperatives patronized the HAMASHBIR could be seen from the following figures for 1944 when the total sales were LP. 2,800,000 :

Collective settlements	48.5%
Consumers' cooperative stores	33.2%
Smallholders' cooperative settlements and other agricultural producers' cooperatives	5 5%
Girls' agricultural training farms, agricultural schools and experiment stations	2.6%
Cooperative restaurants	4.2%
Other cooperative societies and organisations	6.0%
	100%

The progress of business in 1945 over that of 1944 was very rapid and this was maintained to an increasing extent in 1946. During the first six months of

1946 the sales have been so brisk that the total turnover during the year could be easily reckoned at LP. 4,500,000. Imports of foreign goods have already begun to move into Palestine more freely and if this progress of imported goods continues to improve, the total turnover in 1947 might even touch LP. 6,000,000, other things beings equal. The directors of HAMASHBIR are quite hopeful of meeting most, if not all, of the requirements of the existing Jewish farms and the total Jewish population in Palestine, which are reckoned at LP 10,000,000.

Owing to the rapid inerease in the volume and complexity of business the HAMASHBIR has organised the following sales department—

Grocery and foodstuffs
Fertilisers
Seeds and chemicals
Building materials
Textiles and footwear
Engineering department
Industry department.

Through these departments a wide range of commodities is being supplied to members and these include groceries, colonial goods, cereals and other foodgrains, foodstuffs for cattle and poultry, fuel and oils, seeds and agricultural chemicals, fertilisers, building materials and hardware, agricultural machinery and implements, refrigeration and dairy machinery, pumps and irrigation equipments, tools and equipment of every day description, household articles, textiles and footwear.

A staff of specialists and technical advisers is maintained by the engineering department which apart from supplying machinery and equipment to the customers, is also the technical adviser to the farmers on all matters concerning technical equipment required by them. All spare parts and repairs are available for machines and servicing and repairs of the equipment are done by fieldmen and engineers of the HAMASHBIR.

Owing to the enormous increase in the demand for consumer goods the HAMASHBIR has organised its own production units either indepently or in partnership with collective settlements or other cooperative institutions. The industry department is in charge of this work. All products manufactured in these production units are sold by the HAMASHBIR. It owns a flour and fodder mill which has a fully eqnipped modern plant for producing flour, bran, crushed grains, fodder mashes, etc. At present it covers 50% of the flour requirements of members and is capable of further expansion immediately after conditions become normal. In partnership with sheep breeders of the various collective settlements and cooperative farms, the HATZAMAR Wool Processing Works have been organised for the purpose of collecting, washing, combing and dyeing wool. The wool so processed is then sold to spinning and weaving workshops. A seed cleaning plant was established in 1940 in partnership with a seed growers' cooperative society. Best varieties of seeds grown by the society are tested and re-cleaned in the plant in a most thorough and up-to date manner. A large variety of field, vegetable and flower seeds so cleaned and treated is then marketed through a special department of the HAMASHBIR and through Specially organised seed retail distribution stores. A shoe factory has been organised in cooperation with a collective settlement and all products manufactured in this factory are sold by the HAMASHBIR. It has also supplied orders of the Navy. The HAMASHBIR owns interest in a rubber works which manufactures from used rubber a variety of articles like rubber-soled gym-shoes, water-hose, hot water bottles, erasers, etc. An important feature of the concern is the retreading of old tyres. The manufacture of other types of rubber articles, especially rubber textiles like rain-coats, hospital sheets, etc. is contemplated in the near future. A large number of collective

settlements and cooperative farms have organised their own workshops not only for providing their own needs but also for selling articles in the market. There is a long list of articles so manufactured and they include agricultural implements and tools like ploughs, harrows, drills, horse-drawn balers, spades and rakes, overhead irrigation apparatus and sprinklers, bee hives, wax foundation, saddles and harnesses, rugs and carpets, footwear, box making, cabinet making, jams and marmalades, fruit juices, pickles, preserves, tiles and bricks, etc. All these articles are sold through the HAMASHBIR.

Owing to the increasing and large turnover, the HAMASABIR has been able to secure sole agency and representation for the whole of Palestine in respect of a variety of agricultural and other machinery and articles. Thus it represents about half a dozen manufacturing concerns in the United Kingdom in respect of equipments for refrigeration, air-conditioning, pumps, irrigation, electric bulbs and other electrical equipment and agricultural machinery. It has also secured sole agency for Palestine from over half a dozen concerns from the U.S.A. covering a wide range of articles like tractors and other agricultural machinery, refrigeration and cold storage equipment, electric incubators, bee keeping equipments, agricultural chemicals, etc. etc. Sole agency for certain types of dairy machinery has also been secured from manufacturers in Denmark and Sweden.

The HAMASHBIR is a member of the Cooperative Wholesale Society of Great Britain which renders it considerable assistance in making purchases in foreign countries. Since the outbreak of the last war most of the purchases of the HAMASHBIR in U.S.A. have been handled by the New York depot of the Cooperative Wholesale Society of Great Britain.

The operating expenses of the HAMASHBIR come to less than 6% of the total turnover as would be evident from the following figures:

OPERATING EXPENSES CF HAMASHBIR.

(Per cent on turnover.)

	1939	1942
Interest, insurance and taxes	0.44	1.02
Wages	1.94	1.63
Donations and other contributions	0.81	1.25
Other items	2.02	1.65
Total	5.21	5.55

Similar figures for years later than 1942 are not available, but it is understood that the proportion of operating expenses, particularly on wages and other items, has been further reduced by 1945 owing to the large increase in turnover.

The HAMASHBIR sells wholesale direct to bulk purchasers like collective settlements, hospitals, etc. For the convenience of members of smallholders' cooperative settlements, where the farmer lives and works independently and of other cooperative institutions, consumers' cooperative stores have been organised. There were 92 such cooperative societies in 1942 and their progress may be seen from the following figures:

Year.	Number of consumers' Cooperative stores	Total turnover. LP.	Own capital. LP.
1931	11	37,763	3,344
1935	40	272,550	20,255
1937	47	359,113	38,791
1939	57	341,009	51,040
1941	64	500,253	71,025
1942	92	1,165,137	108,592

The proportion of working expenses of these cooperatives during the period 1931 to 1937 ranged from 5. 6% to 6. 8% of the total turnover. There has been a further rapid progress since 1942 and the number of consumers' cooperatives in 1945 was 100 which did business of the value of LP. 3,100,000 and built up as own capital a sum of LP.225,000. The number of individuals who were members of the 100 consumers' cooperative stores in 1945 was 26,000.

(iii) TNUVAH LTD.

This was organised in 1926 with the object of selling all farm produce, excepting foodgrains, hay, green fodder and seeds. There are 3 TNUVAH cooperative societies with headquarters at Tel Aviv, Haifa and Jerusalem. They are independent bodies separately registered but federated in one central organisation called MERCAZ TNUVAH with headquarters at Tel Aviv. The federal organisation is also registered as a cooperative society and its object is to coordinate the activities of the three TNUVAH societies and to direct their marketing operations. It also deals with matters which are common to the three societies.

The societies handle milk and milk products, poultry and eggs, and fruits vegetables, honey, fish and fruit products.

Its membership consists of collective settlements and smallholders' cooperative settlements where it is compulsory that all members must sell all their surplus produce through the cooperatives. A number of other independent farmers and farmer groups are also members. There is no share capital and funds of the TNUVAH are built up from the savings from the commission earned. When it was first organised, the working capital was obtained trom the HISTADRUTH (General Federation of Jewish Labour in Palestine) organisations. The general body of TNUVAH consists of the members but the actual representation is based on one vote per LP. 1000 worth of business provided by the member. New settlements and cooperatives with business less than LP. 1000 get one vote. The vote is to be exercised only if the representatives actually attend the meeting. The general body elects every year a general council and a managing committee to look after the day to day working of the TNUVAH.

All products are collected by the TNUVAH trucks or delivered to the collecting stations of TNUVAH by the members in their own trucks. The methods of grading and packing are determined by the head office of TNUVAH which also supply all the packing and wrapping materials. There are, however, no statutory or standards of grading and packing. Whatever grading is done (e. g. fruits and vegetables) is, more or less, like sorting by variety, condition and size, but there has been so much mutual confidence developed between the Jewish societies and their marketing organisations that there is hardly any dispute or difference of opinion. Eggs are graded by weight and there has been no case of any member sending stale or rotten eggs for sale. Fruits and vegetables are generally not pooled and the consignments of different members are sold separately. In the case of bananas, however, the different quality bunches are pooled together and then sold. The members accept the pooled price. The actual grading, candling and marketing of eggs is done by the TNUNAH societies which possess grading machines and candling apparatus. The members accept the pooled price. The handling and distribution of milk is quite elaborate and milk is received at TNUVAH centres from quite long distances. For instance, the longest distance from where milk is received at Tel Aviv is 160 kilometres involving a journey of 5 hours. In such cases, the milk is pre-cooled before it is transported to the TNUVAH. On arrival, the milk is tested for cleanliness, sourness and butter fat contents. Cleanliness is determined by colour, sedimentation and suspended matter, while butter fat contents and sourness are determined by Gerber's method and chemical titration respectively. These tests,

however, are not required to be conducted every day and for every consignment of milk. Usually, the frequency of such tests is 2 or 3 times a month in the case of any one individual member. Milk containing less than 3.5% fat or which is sour or dirty is not accepted. During summer months, however, some milk is likely to go bad during transit and this is accepted at a discount of about two PIASTRES per litre. Such milk is used for manufacturing milk products.

The TNUVAH societies operate modern dairies in Tel Aviv, Jerusalem, Haifa, Tel Joseph and Dagania. The milk is pasteurised and then delivered to consumers in the city by house to house delivery carried out by contractors or distributors employed by the society. A quantity of milk is converted into butter, cheese and other products which are sold to consumers through private retail dealers or in special shops of the TNUVAH or through cooperative restaurants. Payments to members for the milk delivered is made at a flat rate based on the monthly average of receipts from milk sold in all forms.

Poultry, eggs, fruit and vegetables, fish, etc. are sold to contractors or in the open market. A small proportion is sold through special TNUVAH shops. These shops have built up their reputation for quality products and hence usually attract a very large number of consumers. If the graded eggs are found bad, consumers or retail dealers are at liberty to return them to the TNUVAH. The graded eggs are not marked with the date of grading and it was contended that this was not necessary as the cooperatives are always willing to take back stale or bad eggs. Normally, the cooperatives supply to retailers and consumers freshly graded eggs in quantities sufficient to last for one or two days in summer and about a week in winter. The retailers and consumers are persistently advised to take only that number of eggs which would be sufficient for them for one or two days in summer.

The charges made by the TNUVAH societies on sale vary from 5% on apples and oranges to 9% on bananas. Milk is charged on per litre basis. All charges include a levy for capital fund of the TNUVAH. If there is any surplus in any branch, it is returned to the members in proportion to the volume sales of each member in that branch.

The total capital of the Tnuvah societies in 1946 exceeded LP. 483,000 as against LP. 20,287 in 1933 and LP. 340,668 in 1944.

The following statement shows the progress of the working of the TNUVAH societies during the past 15 years :

PROGRESS OF TNUVAH SOCIETIES.

	1930	1935	1940	1945
VALUE OF SALES (LP.)				
(i) Milk and Milk Products.	82,453	287,612	317,150	1,843,500
(ii) Eggs, poultry, fruits and vegetables.	56,649	116,812	387,000	3,105,700
Total.	139,102	404,424	704,150	4,949,200
QUANTITIES OF MAIN PRODUCTS SOLD,				
(i) Milk (litres)	3,655,000	12,175,432	16,787,000	26,416,000
(ii) Eggs (Number)	1,650,963	5,992,335	24,453,130	21,600,000
(iii) Poultry (Kg.)	75,132	140,903	460,098	755,000
(iv) Bananas (Kg.)	753,246	315,253	1,968,300	3,086,000
(v) Grapes (Kg.)	632,800	734,458	2,460,475	2,445,000

(iii) TNUVAH EXPORT LTD.

This was organised by the Central TNUVAH in 1937 for promoting exports of agricultural products. Its activities are very largely confined to citrus fruits but its plan of action covers vegetables, potatoes, honey and other agricultural products also.

The following figures indicate the progress of working of TNUVAH EXPORT LTD. till the outbreak of the War :

CITRUS EXPORTS (IN BOXES)

YEAR.	TOTAL EXPORTTS.	TOTAL JEWISH EXPORTS.	EXPORTS BY TNUVAH.
1936-37	10,790,000	6,000,000	403,000
1937-38	11,412,000	6,200,000	537,300
1938-39	15,265,000	8,500,000	1,940,000
1939-40	7,596,000	4,250,000	666,180

The outbreak of the War in 1939 brought the citrus exports to a stand still and all citrus growers in Palestine suffered severely. A large number of trees had to be cut down and the delicious Jaffa oranges were actually fed to cattle. The TNUVAH EXPORT LTD., however, still continues to exist and has recently resumed business not only in citrus fruits but also in honey, bananas, vegetables, essential oils and fruit juices. Even during the War years it could do some small business and by the end of 1944 it could build up its own capital to the extent of LP. 72,000.

CHAPTER 3.

ORGANISATION AND DEVELOPMENT OF DIFFERENT TYPES OF JEWISH FARMS.

I. STRUCTURE OF DIFFERENT TYPES OF JEWISH RURAL SETTLEMENTS.

The following statement shows the structure of the three types of Jewish Rural Settlements in 1944:—

STRUCTURE OF DIFFERENT TYPES OF JEWISH RURAL SETTLEMENTS IN 1944.

	MOSHAVA (Private villages with individual farmers)	MOSHAV OVDIM (Smallholders' cooperative settlements)	KIBUTZ (collective settlements)
Number of settlements ...	45	99	111
Total population ...	76,000	29,500	33,500
Total area (DUNAMS) ...	446,380	221,990	314,810
Area under fruits (DUNAMS)			
i) Citrus	97,510	17,860	4,900
ii) Other fruits ...	17,750	6,690	13,040
Dry crops (DUNAMS) ...	118,790	127,800	196,710
Irrigated crops (DUNAMS) ...	18,110	20,630	32,130
Number of cattle ...	6,960	10,750	9,330
Number of poultry ...	121,140	306,940	147,970

Average population per settlement ...	1,689	298	302
Average total area per settlement (DUNAMS) ...	9,919	2,242	2,836
Total area per capita of population (DUNAMS) ...	5.9	7.5	9.4
Number of cattle per settlement ...	155	109	84
Total area per head of cattle (DUNAMS) ...	64	20.6	33.8
Number of poultry per settlement ...	2,692	3,100	1,333
Number of poultry per head of population ...	1.6	10.4	4.4
Percentage of total area under cultivation ...	56.5	77.9	78.4
Percentage of area under fruits and irrigated crops to total cultivated area	52.8	26.1	20.3
Percentage of area under citrus total cultivated area ...	38.6	10.3	2.0

It is clear from the statement that the average population of private villages is much larger than that of either the collective settlement or smallholders' cooperative settlement. The average number of inhabitants on collective settlements and smallholders' cooperative settlements is almost identical. From the point of view of average area per settlement, the private village is much larger than either of the two types of cooperative farms. On the other hand, it looks strange that the per capita area in private villages is so small. This is because a very large section of the population from private villages works in trade and industry. As a matter of fact, a large number of private villages is located close to towns and cities. It may further be observed that majority of the private villages are situated in the best part of Palestine where citrus cultivation is most important and where irrigation water is available more easily. It is for this reason that the proportion of irrigated area and area under citrus in private villages is much larger than in the two types of cooperative farms.

II. MOSHAVA (An ordinary village with individual farmers working and living on their own)

This is the traditional type of village or settlement based on private property. Each farmer owns his land and cultivates it in his own way. These private villages were the first type of settlements organised by the Jews.

The commencement of the establishment of such villages can be traced back to a period around 1880 when many middle class Jews from Russia and Central Europe migrated to Palestine to settle there as agriculturists. Groups of such immigrants came into Palestine, purchased land and settled down in agriculture. Later, philanthropic Jews organised institutions for helping these settlers. By 1990, 12 such villages were organised and by 1914 their number increased to 32. At present there are 45 such villages with a total population of 76,000. There are a little over 5,000 individual farms in these villages and the average cultivated area per farm works out to 62 DUNAMS. They are, therefore, small individualistic farms operated with the help of a few hired labourers, especially during harvesting period or by leasing out the land to tenants. Several land owners in these villages are now absentee landlords and their farms are cultivated by tenants. In 1941-42 some 2,300 farms belonged to absentee owners.

The 45 villages may be classed into three types :—

(1) EIGHT LARGE VILLAGES EXTENDING OVER A LARGE AREA MOSTLY UNDER CITRUS PLANTATIONS. The population varies from 2,000 to 16,000 and the villages are mostly semi-agricultural as many inhabitants are working in trade and industry.

(2) NINETEEN PLANTATION VILLAGES MAINLY IN THE COASTAL PLAIN WHERE ALSO CITRUS IS THE MAIN CROP. Since after 1939, however, mixed farming has developed to some extent due to the stoppage of citrus exports and difficulties about food during the War period.

(3) EIGHTEEN EXTENSIVE AGRICULTURE VILLAGES IN THE GALILEE AND SAMARIA AREAS OF PALESTINE. These are purely agricultural but the method of cultivation is extensive. Mostly grain crops are grown in these villages and they are not considered to be so progressive as the other Jewish villages and cooperative farms.

From the point of view of cooperative farming, there is nothing special in the working of these private villages. There are, however, many types of cooperative societies organised in these villages and the principal ones are societies for sale and purchase, water supply societies and thrift and credit societies. A large number of farmers also take advantage of the HAMASHBIR and TNUVAH central sale and purchase societies.

III. COLLECTIVE OR COMMUNAL SETTLEMENTS (KIBUTZ OR KVUTZA)

(i) OBJECTS AND MEMBERSHIP.

All collective settlements are registered under the Cooperative Societies Ordinance of Palestine and their main registered objects are:

(a) to manage and develop a collective farm;

(b) to undertake agricultural and other works outside the settlements whether by contract or on the basis of a fixed wage;

(c) to organise industries in the settlement;

(d) to dispose of the products of the settlements and purchase its requirements;

(e) to maintain a common purse into which all the earnings of their members shall be paid and from which all their requirements shall be provided;

(f) to assist members in raising their economic, social and cultural living by mutual aid; to care for their sick; to support the old and feeble and other persons dependent on members; and to maintain and educate their children;

(g) to supply all the social, cultural and economic requirements in the settlement and to undertake all steps deemed necessary for improving these conditions and in particular to establish and maintain creches, kindergartens and schools for the education and training of children; to establish and maintain in the settlement public institutional services, and in general, to undertake all activities which are customarily undertaken by village authorities.

Membership of the settlement is open only to the Jews. Every able-bodied person, male or female, above 17 is eligible to become

a member. Every person desiring to become a member must agree to adhere to the tenets of the Zionist Organisation. New members can be admitted only on the majority of votes of the general assembly of the settlement and after a probationary period, which may extend from 6 to 12 months.

The fundamental principles underlying the organisation and working of a collective settlement are (i) nationally owned land; (ii) self-labour; (iii) the settlement is the common property of all members; (iv) collective production and consumption; (v) collective education and rearing of children; (vi) mixed farming, and finally (vii) "to get from each according to his or her capacity and to give to each according to his or her needs". Every member places at the disposal of the settlement all his or her time, energy and belongings, if any, (excepting articles required for personal use, *e.g.* clothes, shoes, toilet articles, etc.) while the settlement provides him or her all his or her requirements, having regard to the financial resources of the settlement and equal rights of all members.

The population of the settlement consists of (i) working members (men and women), (ii) children of the working members, (iii) elderly parents of the working members and (iv) probationers, trainess, guests and visitors. A little over half of the members are married couples. The husband and the wife have equal rights of membership.

(ii) Administration.

The general assembly of the members is the final authority in all matters connected with the settlement. The annual general meeting of the members is compulsorily held at the beginning of the agricultural year in October. It may, however, meet as often as may be required and there are settlements where general meetings were held as frequently as once a week. Each member has one vote and all questions are decided by majority of votes. Open vote by show of hands is the general rule though there is provision for voting by secret ballot. The secret vote, however, is hardly exercised. In every case the majority decision becomes binding.

There is no head or chief for the settlement, Every member whether he is doing the work of a scavenger or a doctor has the same right. Similarly, there is no seniority or any other formal distinction between an old and a new member. The general assembly elects once in two years an executive committee consisting of 6 or more members of whom one is farming administrator for coordinating the activities of all branches of the farm, one treasurer who controls the exchequer, one secretary, and one accountant. The secretary and the accountant conduct all correspondence, keep books and perform all secretarial and administrative functions. The executive committee also contains a MUKHTAR whose duties are to deal with all external affairs with Government and outsiders. MUKHTAR is a term applied to village headman and he is found in all the villages in Palestine. His duties are almost entirely confined to dealings with the various departments of the Palestine Government.

The general assembly also appoints every year a village committee usually consisting of 11 members. This committee meets once a fortnight to discuss the agenda drawn up by the executive committee which itself meets once or twice a week. Only important questions are referred to the village committee.

Various sub-committees dealing with the different economic and social aspects of the working of the settlement are also elected by the general assembly at the

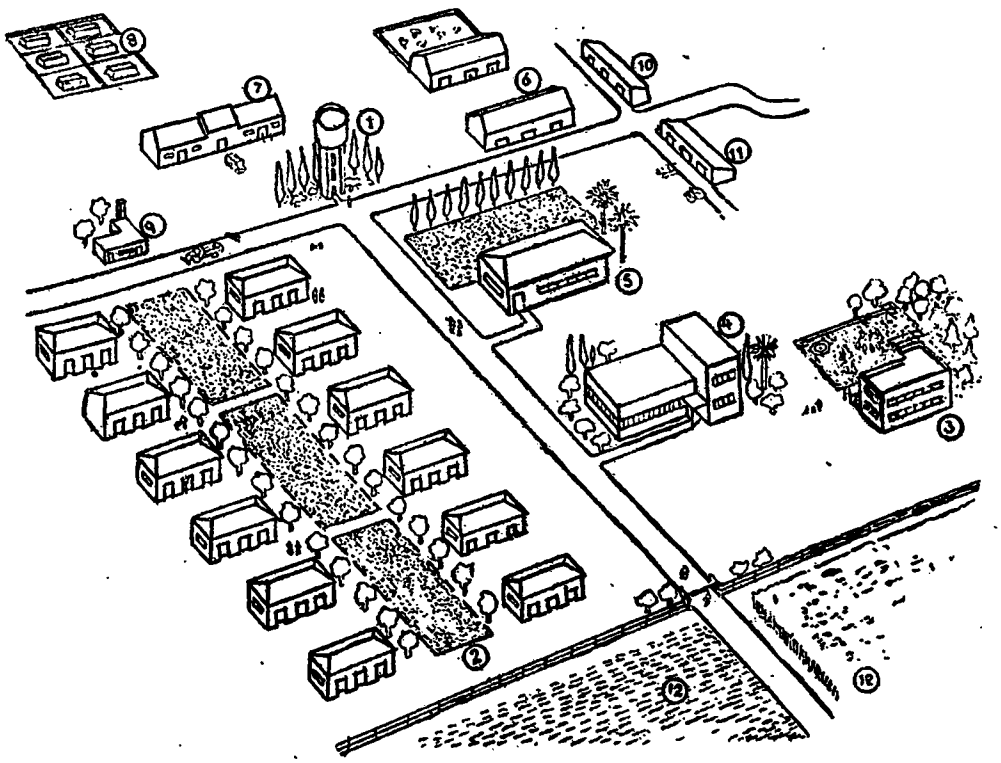
beginning of the year. There are thus sub-committees for finance, housing, farm management, labour, household affairs and personal needs of members, security or defence, children's education, health, cultural activities, adult edncation and entertainments. Under the advice of the finance sub-committee, the general assembly allocates budget to each of the various sub-committees. Important sub-committees like the one on farm management, appoints groups in charge of the various branches of the activity with which that sub-committee is concerned. Groups are thus appointed for livestock, dairy, poultry, vegetables, fruit orchards, cereals, fodder and farm stores, workshop and work animals. Each group may consist of 6 to 8 persons of whom one is appointed as leader. In almost every case the leader so appointed is an expert of the settlement in the branch to be operated by his group. In addition to the allocation of working tasks to each member of his group, the leader also works himself. The leader in charge of farm stores, workshop and work animals is an exceedingly important and capable person of the settlement, as the proper working of the settlement as a whole very largely depends on his capacity and efficiency.

The general assembly also appoints every year the leading public officers of the settlement like the kitchen manageress, cloth store and laundry manageress, etc.

(iii) LAYOUT OF THE SETTLEMENT.

The layout of the settlement and the farm is prepared before the members occupy the land by professional architects and other experts of the various departments of the Jewish Agency. In general, the living quarters and other buildings are grouped together at the centre of the settlement. In every settlement there are lawns, gardens, trees, playgrounds and a small forest. The various buildings, sheds and other constructions in the settlement may be enumerated as under:

(1) Living quarters for married and unmarried men and women,
(2) Bath rooms and lavatories,
(3) Store, laundry and sewing room,
(4) Kitchen and dining room for adults,
(5) Children's buildings—
    (a) Creche,
    (b) Children houses, kitchen, dining room and laundry,
    (c) Buildings for kindergarten and school including school garden,
(6) Dispensary,
(7) Library, reading room and music room,
(8) Office,
(9) Cow sheds,
(10) Dairy,
(11) Poultry runs,
(12) Stables and tractor sheds,
(13) Barns and granaries (some settlement have also built up silos and elevators),
(14) Water tower, and
(15) Industrial workshops,



KVUTZA
(Collective Settlement)

1. Water tower, Office 2. Living quarters 3. Children's houses & school 4. Dining Hall 5. Lecture Hall & Library 6. Stables 7. Sheds 8. Chicken Runs 9 Bathrooms 10. Work-Shops 11. Garage 12. Fields.

(iv) LIVING QUARTERS.

Each married couple gets a room for itself. The unmarried members and other single persons stay two or more in a room, males and females living separately. In most settlements there are separate blocks or buildings for married couples, single men and single women. The furnishing and decoration of the rooms is done by the appropriate sub-committee according to the budget made available to it. The rooms in most of the old settlements are furnished in a simple but neat manner. A table, a few chairs, a book case and a wardrobe or cupboard adorn the rooms. In a large number of settlements, the furniture is manufactured by the members on the settlement itself.

Bath rooms and lavatories are common, but separate for males and females.

It may be noted that when the settlement first starts working on the land, there are no buildings of any kind and work is commenced with tents, wooden huts and other temporary structures. During this period, therefore, even the married couple may find it difficult to get a separate room. The Delegation actually saw a few of such settlements. The work of constructing buildings of a more permanent nature begins after the members have worked on the settlement for a year or two. During this period the settlement receives in full compliment of loan from the Jewish Founation Fund. Construction work is undertaken with the help of these funds and, in most cases, the members themselves work on the construction, debiting their wages against the construction cost. The whole of the construction work is done by Jewish labour either from within the settlement or from outside.

(v) STORE, LAUNDRY AND SEWING ROOM.

Like other branches, the store, laundry and tailoring shops also work within the budget allocations. The budget for clothing is important. The appropriate sub-committee appointed by the general assembly of the settlement purchases cloth and fixes a quota of clothing for individual members and their dependents, including children. Within the budget allotment and the total requirements of the settlement as a whole, selection of cloth for men, women, boys, girls and children is done by a small committee—separate committees for men's clothing and women's clothing—and the purchases are made from the HAMASHBIR, the Palestine Central Wholesale Society Ltd. Each member and other permanent resident of the settlement goes to the settlemet cloth store, selects his or her pattern and subsequently obtains his or her quota of clothing for the year. The actual individual quota varies from one settlement to another and according to the financial condition of the settlement. Normally, each person gets two sets of clothes for wearing while on work and one or two sets for wearing off the work. Arrangements, however, exist for more frequent replacement in the case of such of the members who wear out their clothing sooner. *e.g.* those working on tractors and combines, in kitchen, etc. Once a week—on Fridays—the members bring their washing to the laundry. Each member is allotted a small cubicle in the laundry building where he puts in the washing and takes away the previous week's washing, cleaned and pressed. The cloth store manageress is responsible for checking the laundry, for arranging for mending and recommending replacement if the old clothes are worn out and beyond mending.

Similar are the arrangements for footwear. Every member gets one or two pairs of working shoes or boots and one pair of shoes for use off the work. A number of settlements have their own arrangements for manufacturing shoes by hand. The cobblers making shoes or repairing them are also members of the settlement and the Delegation saw quite a few of such cobblers who had never

done cobbler's work in their life before joining the settlements. When the shoes are given for repairs, another pair is given out on loan from the cobbler's stock.

In the earlier days, even the clothes in daily use were common. On becoming a member, the candidate had to hand over all his clothese, excepting those on his person and other personal belongings to the store. During the weekly distribution of washed clothese, he had to take a chance of getting anybody else's clothes. Size and not the former possession determined distribution. Only shoes, tooth brush and other toilet articles remained with the member as personal property. This has now disappeared with improvement in economic conditions of the settlements.

Arrangements exists for more dressy outfits for use of members going out to city on personal or settlement business. Such clothes, though fitted to the wearer, must be returned to the store on return from city, where they are retained till required to be fitted for the next traveller.

The other store of the settlement containing toilet and other goods required by the members looks like a big shop which seems to store almost everything like soap, tooth-pastes, tooth-brush, razor blades, shaving brushes, pens, pencils, paper, cigarettes, matches, ash trays, picture frames, oil lamps, string and even contraceptives for married couples. These articles are doled out to members on mere asking. There are no requisition slips and no signatures. If, however, a member is found to be taking from the store any one article in excessive quantity, the storekeeper would ask questions. If he is satisfied with the replies and is not afraid of running short of the supply within the budget allotment, he gives out the article or articles concerned ungrudgingly. If, on the other hand, he is not satisfied and apprehends shortage, he explains the position to the member concerned. If the member asking for excessive supply is not satisfied, and there is difference of opinion, the matter can be taken up with the sub-committee. If the decision of the sub-committee is not acceptabe to either of the two parties, the aggrieved party is free to take up the question further with the executive committee or even the general assembly where the whole matter is discussed openly. The majority decision of the general assembly is final. It, is, however, understood that there have been no such acute differences in any collective settlement.

All persons working on clothing, tailoring and sewing, footwear and other store are members of the settlement.

(vi) KITCHEN AND DINING ROOM FOR ADULTS.

The kitchen and dining room are the largest building in the settlement. It is a very spacious construction artistically designed and can be rightly called the "heart of the settlement". It is here that all members meet together four times a day for their meals. The size of the dining hall varies according to the size and the financial condition of the settlement, but the largest one in one settlement is big enough to enable 500 persons to sit for dinner at one time. The meetings of the general assembly, lectures, concerts, dances and other public functions of the settlement take place in the dining hall. All important notices and instructions to members are displayed in the dining hall. Notices indicating allocation of work on the following day are exhibited in the dining hall on the previous night. Every member, therefore, sees the notice board first before going in for his dinner in the evening

There is no waiting in the dining hall and every member is served as he or she arrives. There is no reservation of place or table and the members take seats, if vacant, on tables nearer to the kitchen. The tables and chairs

or benches are made of thick wood and are so arranged as would permit the rapid distribution of dishes and the meals. In bigger dining halls the food and crockery and cutlery are brought on wheeled tables to every corner of the dining hall. The china and silver are of the cheapest variety. Generally all courses are eaten on one plate.

The kitchen forms part of the dining hall and is very clean and equipped with up-to-date gadgets. The kitchen manageress is one of the most important public officials of the settlement and arranges for the preparation of food to cater for a varieties of tastes. Some members take vegetarian food. Stomach troubles are not infrequent and sturdy workers doing hard physical work on the farm require plentiful supply of food. The kitchen manageress has, therefore, to supply the different types of requirements of food. Normally, however, the largest number of members prefer food prepared for all.

Food is plentiful. There are 4 regular meals — breakfast, lunch, afternoon tea and dinner. The morning breakfast begins at 6 A. M. and consists of bread, butter, jam, porridge, salad of cumcumbers and tomatoes, tea, coffee or milk. LEBEN, a sort of pot cheese, is also served in place of jam. The serving of breakfast continues for two hours. Immediately after breakfast the members depart to their work. Those who have to commence work before breakfast, either take the breakfast with them or arrangements are made to carry their breakfast at the place of their work. Lunch commences at about half-past eleven in the morning and consists of soup made of fresh fruits, rice or maize or JOWAR porridge (boiled foodgrains), or meat or fish on alternate days, vegetable salad and pudding or fruit salad. Afternoon tea with bread, butter and jam is served between 4 and 4-30 P.M. while dinner commences at about 7 P. M. The dinner consists of eggs or fish, vegetables, soup, salad and milk or tea. Meat is rather scarce on all the settlements and excepting in regard to meat, second helpings are liberally given during all the meals.

Wine made from grapes is plentiful and cheap in Palestine. But no member gets wine or any other alcoholic drinks in the settlements. Only on a few festival occasions in a year, a member may get a bottle or two of wine. A member of collective settlements and other cooperative and private farms are directly interested in the manufacture of wine in that they deliver their wine grapes to a cooperative cellar which is famous all over Palestine for the manufacture of excellent wines which are now exported to different countries and also to India. The farms or farmers delivering their fruits are members of the cooperative cellar and are given for their delivery a pooled price based on the total wine sales of the cellar during the preceding year. When the citrus fruits are in season, drinks made from fresh fruits are frequently served in all settlements. Fresh fruit drinks are very common and popular all over Palestine.

Work in and about the kitchen, dining hall service, waiting on table, cleaning up and washing is done by the members themselves The kitchen manageress is the permanent official but the other workers take their turn of duties in the kitchen and dining hall. On an average, one worker is required in the kitchen and dining hall for every 12 to 15 members.

(vii) CHILDREN AND EDUCATION.

All children in the collective settlement are brought up and educated at the cost of the settlement. Care of children begins when the child is in the womb. Expectant mothers receive medical attendance and get adequate diet. They are given light duties and relieved of work altogether at the proper time. A few days before confinement they are taken to the maternity homes organised by the Sick

Fund of the HISTADRUTH. Immediately after the mother and child return to the settlement, the child is placed in the settlement nursery. The mother gets the necessary rest. The nursery is in charge of trained nurses who are members of the settlement. The mother is free to nurse the child as often and as long as she likes. Afterwards, she can see the child at appropriate inteavals. Later, when she commences her usual duties in the settlement, she sees the child in her free time, usually in the evening and on Saturdays—Jewish weekly SABBATH— and other holidays. In one settlement, however, the procedure is modified and all children up to 6 return to their parents in the evenings.

Children houses are separate and in all settlements the first buildings to be constructed are the children houses and the school There are separate houses for infants up to 2½ or 3 years, for kindergarten children from 2½ or 3 years to 6 years and school children from 6 to 16 years. Excepting the infant house, each of the two sections of houses has its own kitchen and dining hall The clothing for children up to 6 is common and is distributed after washing according to the size and not previous possession. Arrangements for clothing for children above 6 are the same as for adults, except that the children houses have their own laundry and store.

Majority of the members who work in the children houses are women and about half of them are considered specialists and kept permanently to work in the children houses. The remaining workers take their turn with other members. The duration of this turn may be anything from 3 to 6 months. The number of members working in the children houses varies in accordance with the number of children in the settlement. It is estimated that one worker is required for every 2½ to 5 chiidren.

The settlement has its own school. There are, however, a few settlements adjoining each other where a central school is organised for the children of such neighbouring settlements. In most schools, the teachers are members of the settlement. All schools are under the supervision of the Cultural Committee of the HISTADRUTH, which arranges to supply trained teachers and coordinates the educational activities of all cooperative settlements. Ideas of cooperative working and coopetative living are dominant in the system of educating children with a view to bring up the new generation to like cooperation and collective settlement, which is neither an employer nor an employee. Special care is, therefore, taken to inculcate the practice and principles of cooperation and collective working and living. This actually begins in the creche where all infants are brought up with equal care and attention. All toys are shared and the clothes provided are of the same quality and pattern.

All children over 6 automatically become members of the children's society of which the techers are leaders and advisers. The society is sub-divided into two or three age groups according to the number of children in the school. These groups then form study units and work units of their own under the guidance of teachers. Each group takes decisions on the basis of majority votes openly declared and is competent to discuss and decide on any question concerning its members. Even the work of techers is allowed to be freely discussed. The group decisions are enforced by a central committee appointed every year by the general assembly of the children's society. The general assembly of the society also appoints annually a work assignment committee whose duties are to allocate to the different groups work in connection with cleaning of children's bed rooms, kitchen help, serving at tables and other common work of the children houses which the children have to do. The group then appoints its different members to do the different jobs. A larger part of the common work is generally allocated by turns to children above 12.

The actual teaching in the kindergarten and the school is considered to be progressive and experimental. The kindergarten section adopts on the whole the Montessori methods, but individual psychology is also given prominence. There is no punishment and coercion is avoided. The kindergarten children are also taught to conduct meetings and to discuss a number of subjects concerning them. A teacher presides and votes are taken and in all such cases the majority decision is. acted upon.

All subjects are taught in the school and the medium of instruction is Hebrew. Other languages like English and German are also taught as second languages. When the child attains 7 years of age it is given in the school garden a small plot, may be as small as 3 ft. x 3 ft., on which the child is taught how to grow flowers or vegetables. The whole work right from the preparation of soil and sowing is done by the children themselves under the guidance of the teacher. The size of the plot and the amount of work done by the child in the school garden increases with age and by the time the child is 10 or 11 years old, it has learnt to do 2 hours of manual work daily. At 13 the boy or the girl is allowed to work on the collective farm for two hours a day for which arrangements are made by the appropriate sub-committee for farm work of the settlement. At 14, a boy or girl is asked to work on the farm from 3 to 4 hours a day and when the tasks on the farm are urgent, even for a whole day. By the time the child reaches 16 it is capable of working the whole day on the farm. The schooling finishes when the boy or girl attains 17 years of age, after which they are eligible to become fullfledged members of the settlement. The general practice is that after a boy or girl attains the age of 17 years, he or she is sent for about a year's training to another collective settlement with the object of letting the young people compare the working of the other settlement with their own. Afterwards the boy or the girl is considered eligible to join any collective settlement as a member.

There is nothing like school-leaving or matriculation or any other University axamination so far as the education in the collective settlement is concerned. However, in every settlement there is a provision to give to talented boys and girls an opportunity to get higher education or professional training at secondary and vocational schools and in the University. The boys and girls go out of the settlement for this purpose and all expenses are met from the common purse of the collective settlement. It is understood that the settlements would have no objection to arrange for even foreign training of a boy or girl considered exceptionally clever. But such occasion has not so far arisen.

Each child, therefore, is fully provided for from its birth by the settlement. The parents, therefore, have no worry on that account and this enables them to work freely and with their full capacity on the settlement without entertaining any idea of amassing private wealth.

(viii) PERSONAL EXPENSES OF MEMBERS.

No member is expected to have any money of his own nor can he get any cash from the settlement purse for his personal use. As a matter of fact, while on the settlement, no member or inhabitant needs to have any money. All requirements and services are available on the settlement without any payment from any one individual. There are no shops or people working in the expectation of cash payments or tips from those whom they serve.

When a member goes out from the settlement either for the settlement work or for his private business, he can get the requisite cash from the treasurer of the settlement. If and when a member wants to go out of the settle-

ment on private affairs, he has to apply to the treasurer for allowance. There is a separate budget for this purpose and the treasurer gives out the money within the budget allotment provided he is satisfied that the member's trip is essential. In case the budget allotment is exhausted, the treasurer explains the matter and expressess his inability. Wherever there is difference of opinion, the matter can be taken up with the appropriate committee or committees, but it is understood that this privilege has not so far been misused by any member.

If a member goes to another collective settlement for change or pleasure, the other settlement provides him with free board and lodging.

When a member wants to post letters, he simply hands over the letters to the store where they are affixed with stamps and posted. In case a member writes too many letters — and this usually happens in the case of new immigrants to Palestine — and if the member in charge of the store apprehends shortage within the budget allotment, the matter is explained to the member concerned who then curtails the number of letters he writes. Accessories for writing letters and other personal requirements can be obtained by any member from the store for mere asking.

There is a special budget head in the collective settlement for enabling members to send monetary assistance to parents, young brothers and sisters abroad. The exact allocation to each member varies in accordance with the financial situation of the settlement.

Cigarettes and tobacco are doled out from the store but for this purpose a maximum daily quota is fixed for each member. If, however, the quota fixed, say for cigarettes, is 10 per day and a member must have 30, 40 or 50 without which he cannot work, and if the sub-committee in charge of the stores is satisfied that the member concerned must have the quantity he asks for, special additional quota is fixed for this member, provided there are aot not too many members asking for this concession and the whole matter can be arranged within the budgeted allotment.

(ix) HEALTH AND SANITATION.

There is a sub-committee for maintaining the sanitation of the settlement as a whole, but the actual cleaning of bath-rooms. lavatories and public roads is in charge of a member. Cleaning and sanitation of kitchen, dinning hall, children's houses, school and living quarters are looked after by the members in charge of kitchen, dinning hall and other public places but the living quarters of adult members are swept, dusted and kept clean by the members themselves in respect of rooms allotted to them. In one settlement, the Delegation found a graduate of a German University in charge of cleaning bath-rooms and lavatories. He appeared to be quite happy with the job and in the afternoons took classes in the school in physics and mathematics. It was further informed that he spent his evenings in research in physics and mathematics.

Every settlement has got a trained nurse who may be either a member of the settlement or an employee of the Sick Fund of the HISTADRUTH. The nurse administers first aid and looks after ordinary everyday sickness of the members. The more elaborate medical aid is, however, arranged by the Sick Fund of the HISTADRUTH which maintains a chain of dispensaries for all the cooperative settlements, a number of central hospitals and sanatoria throughout Palestine. Every Settlement pays to the Sick Fund a premium for health insurance of the members. The actual rate of payment varies in accordance with the wealth of the settlement, but the range seems fo be from 435 to 790 MILS per family per month. Besides, the settlement, as an employer, pays to the Sick Fund 1 to 1½% of its

net income. A qualified doctor is appointed by the Sick Fund for a group of settlements. This doctor resides in one of the settlements, goes round to the settlements in his jurisdiction and looks after the health of the members. In case of serious sickness, the patient is removed to the hospital. The period of convalescence may be spent either at the settlement itself or elsewhere, in accordance with the advice of the doctor. There have been few cases where sick members of the settlments were sent to Europe on the advice of the doctor or doctors of the Sick Fund.

Every member gets the medical aid free. Expenses over convalescence or change of climate on doctor's advice are borne by the settlement. A member is not to worry about his dependents during the period of his sickness and convalescence as all the dependents are continued to be maintained at the settlement cost. If a member becomes permanently invalid, the settlement rules provide that he will continue to get his usual previleges during the lifelong period of his disability. If a member dies, his family is supported by the settlement

Hard work in open air and fields, simple but nutritious food and simple way of living seem to have improved the health of the members of the settlements. The level of average health of the members and children of the settlements was decidedly high as compared with the Jews in towns. Healthy and buoyant faces, broad shoulders and well developed muscles appear to be the common features in all the settlements. Similar is the case with children.

(x) RECREATION AND CULTURE.

Every collective settlement has its own library containing books, magazines and newspapers very largely in Hebrew. A few books in English, German, Russian, etc. are also found. The building, furniture and the number and variety of volumes in the library vary from one settlement to another in accordance with the wealth of the settlement. The Delegation, therefore, came across libraries housed right from wooden shacks to magnificent concrete buildings.

A music room containing a radio, gramaphone and musical instruments is usually attached to the library.

If some members require special books for research or for doing original work in their spare time, the settlement makes arrangements to procure them.

There is also provision for purchasing toys for children. No member can, however, claim proprietorship for the toys which are common property of all the children. For children above infant age, various games and sports are arranged in the children houses and school.

A large number of the older settlements have constructed swimming pools.

Lectures on economic, social, agricultural and political subjects are arranged for the benefit of members and these are given in the dining hall. Theatres (plays), concerts, choirs, etc. are also periodically arranged in the dining hall. Some settlements have their own dramatic groups.

(xi) ADMISSION AND EXPULSION OF MEMBERS.

Admission of new members to collective settlements can only be done by a majority vote of the general assembly of the settlement. No new member is admitted unless the general assembly is satisfied that the new entrant would be useful to the settlement as a whole. With that object it is made compulsory

that all candidates for membership should work as probationers on the settlement. The probationary period may range from 6 to 12 months, but 6 months is the usual duartion. New members are admitted only when there is scope for addition to the total population of the settlement. In most collective settlements, however, the general policy is to admit as many new members (who are entirely immigrants), as possible and with this end in view, every settlement attempts to increase its productive capacity by more intensive cultivation of land and by organising or intensifying subsidiary industries.

Cases of expulsion of members have been rare. Expulsion would arise only when a member becomes abnoxious, but normally matters do not reach such a stage. If a member does not do his allotted task properly, he is not dealt with severely. He is, however, told in a friendly way. If he persists in continuing to be careless in his work or remaining abnoxious in any other manner, he becomes a centre of discussion of the whole settlement. He is thus given to understand how the others feel about him. Socially he is looked down and he, therefore, resigns and moves out of his own accord. Such fear of social ostracism makes either a member to improve and do his duty to the settlement as a whole or to leave the settlemeut of his own accord.

On the other hand, there have been cases where the members left the settlement on the ground that they did not agree with the working of the settlement. In all such cases, the member leaves with the full agreement, cognizance and very often sympathy of the other member of the settlement. The reasons for members leaving a settlement in this manner are many but some of the important ones are dislike for agricultural work or collective living, political or social differences with other members of the settlement, ill-health, desire to earn more money in towns with the object of improving the standard of life, living independently and helping relations in distress or to join parents who might have later on come to settle down in Palestine more comfortably. The most common causes, however, are dislike for hard work and collective life, political or social differences and desire to earn and live independently in towns. Almost invariably, however, collective settlement contains members with identical political views, the socialists dominating. Social differences might arise owing to the immigrants coming from different countries in Europe with languages and cultures of their own. German Jews, for example, prefer to live together. An ambitious member may find that the collective settlement gives no scope to fulfil his ambitions and, therefore, leaves to earn in his own way in towns. By far the largest number of members have left for the reason that there is no privacy for family life in collective settlement. Such members also felt that there is greater scope for incentive if a member and his family work and live independently. The origin of the organisation of small-holders' cooperative settlements is attributed to this cause.

For whatever reason the member might have left, there have been no instances of quarrels or any kind of disruption. On the other hand, if the member wanting to leave a settlement expresses his views in a straightforward manner and the other members of the settlement are convinced about the genuine difference of opinion, the settlement assists such a member in getting himself established in any occupation outside the settlement. The common bond is so strong amongst the Jews that even if a member has to be expelled, a small allowance is paid by the settlement to the member till he finds employment elsewhere or goes out of Palestine. Any member leaving the settlement for any cause is not entitled to any return or compensation for the work done by him or her during the period of his or her membership.

(xii) INCENTIVE.

It has been made clear that on a collective settlement each member has the same rights and gets for himself or herself, his or her children and his or her parents and other old relations all the requirements including food, clothing and

housing. An unmarried member with no children or other dependents gets no preference over another having a large number or children and old relations to support at the cost of the settlement. A question, therefore, arises as to whether a single member would have the same incentive as another member having large number of dependents to support. No satisfactory answer is yet forthcoming. The usual answer given by leaders of the settlements is that there is no ban on the single member getting married and having as many children as he or she likes and also getting old relations to live on the settlement. The Zionist ideal of seeing that as many Jews as possible are settled on the Palestine land is supreme and the question about incentive to do hard work for personal gains does not, at least for the present, come in the way of every member giving to the settlement the utmost of his brain or brawn.

On the other hand, a few instances are reported to have occurred in which members were over zealous about their work and anxious to exhibit exaggerated devotion to duties. Avraham Ben-Shalom in his book entitled "Deep Furrows" (Translation by Frances Burnace, N. Y. 1937) gives an instance of excessive devotion to work. A woman in charge of a vegetable garden was anxious to show better results than those achieved by anyone else. She rose long before the others to get an early start. In the beginning nobody bothered, though her actions were not appreciated by older members. But when tools or work animals had to be distributed to the various branches of farming, she became a real nuisance. In her anxiety to show better results, she overlooked the fact that other aspects of farming were also important. The conflicts she provoked on such occasions, therefore, proved exceedingly embarrassing and injurious to the settlement as a whole, making her feel that she was grossly inefficient inspite of her desire to work hard and long hours.

Conflicts also arose between men and women on the question of equality and women at first insisted on being allocated equally with men heavy and responsible duties. They wanted to plough the land, drive tractors, dig trenches and guard the settlement at night with guns on their shoulders. As men and women are equal members of the settlement, these demands could not be refused and men, therefore, had to do duties which should have been normally done by women, e. g., kitchen, laundry, etc. But the women soon found that heavy work adversely affected their health and that their insistence on equal share of all types of work was wasteful and unnecessary. However, one can still find in several settlements women ploughing the land and running a tractor.

(xiii) ORIGIN AND PROGRESS.

It has been already said in the earlier part of the report that the first collective settlement originated out of the struggle of the young Jews to find work on the then existing Jewish farms during the few years preceding 1908. When the young people found that the Jewish farmers at that time preferred to utilise Arab labour because of its cheapness they formed themselves into groups with a view to give strength to their movement of securing work. The training farms established for these groups by the Jewish organisations were in charge of paid agronomists who paid to the group members wages for the work done on condition that the wages so paid would be adjusted against their share of profits from the farm as a whole. The young Jews had immigrated into Palestine with the burning idea of Zionism. The agronomist treated them as wage-earners and the youth resented his directions. A group of 10 leading workers, therefore, left and started working on their own on a plot of land given by the J. N. F. This group which by progressive stages established the first collective settlement of Dagania may be, therefore, called the founders of collective farms in Palestine.

It may, however, be noted that this group when they started the Dagania settlement did not quite abandon the idea of private property. In the initial

stages they worked together with the object of dividing profits. It was, however, soon realised that it would take long time to have any profits to divide. Meanwhile, for some time they had to live on their capital. With a view, therefore, to curtail expenditure, they decided that there should be no private ownership and that every member should work and live jointly and share equitably the joys and sorrows of the settlement as a whole.

The first collective settlement of Dagania was organised in 1909. Meanwhile, other immigrants came into the country and took advantage of the experience of the Dagania group. By 1914, 4 collective settlements were working with a population of 108. Those early settlers, however, had a very bad time during their pioneering efforts. The land made available to them was largely unfit for cultivation or difficult to cultivate. There was swampy land to be drained and sand dunes had to be levelled up. In hilly tracts, big boulders and stones had to be removed and terracing had to be done. Malaria was rampant in the swampy areas and most of the early settlers of the present HADERA settlement died of that disease. Those who survived refused to leave and in course of time the swamps were drained and made fit enough to grow oranges and vegetables.

Till the end of 1921 the collective settlement was the only form of rural organisation within the Zionist Movement. By 1922, there were 19 such settlements with a population of 1,190. The following figures indicate the subsequent progress :

YEAR.	NO. OF COLLECTIVE SETTLEMENTS.	POPULATION.
1927	28	2,620
1931	31	3,800
1936	47	11,840
1941	87	23,190
1944	111	33,500
1945	111	37,400

By 1930 there were 31 settlements. Since then the speed of organisation of collective settlements greatly increased. 13 new settlements were established during the 5 years ending 1935, while as many as 40 were organised during the period 1936 to 1940. From 1941 to 1945 the number of new settlements established was 27. It is, therefore, evident that 67 out of 111 settlements are less than 10 years old.

Since the underlying idea of the Zionist Movement is to bring into Palestine as many Jews as possible, it is the policy of the majority of the collective settlements to absorb as many new members as possible. With that object efforts are being constantly made to increase the income of the settlement by adopting more and more intensive methods of agriculture and by organising subsidiary industries on the settlement. These collective settlements are now spread throughout Palestine and apart from the financial and other assistance received by them from the different organisations, most of them have been showing signs of being self-supporting since the beginning of War in 1939.

It is noteworthy that most of the members of the different collective settlements did not have any money of their own when they first came to Palestine. It may also be noted that most of them knew nothing about farming before coming to Palestine. These two considerations explain very largely the origin and progress of collective farming in Palestine, apart from the organised effort made by the Jews from all over the world for settling on Palestine land.

(xiv) ORGANISATION WORK.

The principal considerations underlying the organisation of the productive activity of the settlements are (i) absorption of as many members as possible, (ii) needs of the members of the settlement, (iii) increasing the most profitable branches having due regard to available labour and capital supplies and soil conservation and (iv) provision of work throughout the year to all types of members, men, women and others who may not be fit for hard agricultural work either physically or otherwise.

(a) SIZE OF SETTLEMENT.

The land for the settlement is obtained from the J. N. F. on conditions already mentioned earlier. In the beginning, the amount of land allocated to the settlement was based on the conditions prevailing in the Arab farming system and the calculation was made at the rate of 150 to 300 DUNAMS per family according to productivity of the soil. By 1929, the average size came down to 79 DUNAMS per family. Since then, there has been further reduction in the amount of land per family (one man and one woman) owing to more irrigation and more intensive methods of agricuiture. This is clearly indicated in the following statement :—

AVERAGE AMOUNT OF LAND IN COLLECTIVE SETTLEMENTS PER FAMILY (A UNIT OF ONE MAN AND ONE WOMAN) DUNAMS.

		Upper Galilee.	Jordan valley.	Industrial settlements in Jordan valley.
TOTAL AREA OF FARM.				
	1929	98	71	69
	1936	62	42	20
	1939	48	26	20
	1942	43	20	10
CULTIVATED AREA OF FARM.				
	1929	53	59	45
	1936	35	36	18
	1939	26	22	18
	1942	25	17	9
AREA UNDER IRRIGATION.				
	1929	0.1	8.1	2.6
	1936	4.0	9.7	3.4
	1939	4.9	11.5	6.5
	1942	5.5	11.3	8.8
NO. OF INHABITANTS PER 1000 DUNAMS.				
	1929	52	52	52
	1936	90	91	161
	1939	136	170	182
	1942	130	185	290

The actual size of the settlement varies considerably. A simple arithmetic average works out to 2,836 DUNAMS per settlement. The underlying principle

adopted by the J. N. F. in the allocation of land is to give just enough which the members would be in a position to cultivate with their own labour and which would yield them income just enough to adopt a decent standard of living. The size of the settlement, therefore, is in direct proportion to the population of the settlement and the probable income the settlement land would yield for the maintenance of the population. The size, therefore, can be best indicated by the number of inhabitants on the settlement. It is reckoned that 80 out of 111 collective setttlements have a population of less than 300. The largest frequency group consists of 35 settlements with population between 200 and 300 souls. There are only 2 settlements with a population of over 1000 and the number of settlements with a population between 500 and 1,000 is only 8.

Though the general policy of all Jews in Palestine is to see as many Jews settled as possible on Palestine land there is a difference of opinion amongst the settlers themselves as to the desirability of making the settlement too large. A section of settlements believes in smaller size with the object of developing to the maximum the mutual trust and confidence which, in their opinion, must decline with increase in the size of the settlement beyond a certain limit. On tho other hand, the other section has faith in organising as large a settlement as possible and absorbing a maximum number of Jewish immigrants. This latter type of settlements, therefore, have started large number of subsidiary industries with the object of increasing the produtive capacity of the settlements.

(b) CAPITAL.

Most collective settlements start work without any capital of their own. It has already been mentioned earlier that before giving land to the settlement, the J.N.F. sees that it is brought up to a minimum stage of cultivabilty. Expenditure, therefore, is incurred by the J.N.F. on the "amlioration" of land. Normally, the prospective members of the settlement are engaged on this "amelioration" work. These members receive wages for the work they do in clearing the land and making it fit for cultivation. They live collectively and in most cases save funds. While working on the 'amelioration' job, they also begin constructing paths and small roads and wooden shacks and huts. The life they lead at this time is hard. Their first job is to find drinking water and in several cases the water had to be carted over a distance of a few miles from another collective settlement. The first agricultural operation undertaken by all settlers is the planting of quick growing trees like cypress and eucalyptus for giving shade and green appearance to the settlement. These shade trees are characteristic of all cooperative farms in Palestine and give them a very pleasing and attractive appearance, The planting of trees is now fairly well advanced in a number of settlements, some of which are having small forests of their own. Immediately after the prospective members of the settlement bring the land up to a minimum stage of cultivability, the Jewish Foundation Fund comes forward with long period loans to the settlers. Details about these loans and other credit facilities to the settlements have already been discussed in the earlier part of the report. In the majority of cases, the settlers themselves have saved some money by the time the Jewish Foundation Fund loan becomes available. The actual farming operations and construction of roads, huts, etc. begins at this stage. Major part of the labour requirements for road and building construction work is supplied by the members themselves. Their wages, for this purpose, are debited against the budget for construction work but credited to the income side of the settlement.

(c) LABOUR.

It is one of the fundamental conditions of the working of all collective settlements that no hired labour shall be employed and that all work on the settlement

will be done by the members themselves. During the World War II, however, many members of the settlements enlisted in the Army and the condition of self-labour was relaxed. No settlement, however, was permitted to employ any non-Jewish labour. If a particular settlement has surplus labour, it sends its surplus members to work on hire to other Jewish settlements or other Jewish works, but the wages so earned must go to the common pool of the settlement.

The actual working of the farm of the settlement is based on the cropping schemes and operational plans prepared at the time of the commencement of the settlement by the Planning Bureau of the Department of Agricultural Settlement of the Jewish Agency, mention about which has already appeared in the earlier part of the report. Within the frame work of those plans, the settlement prepares an annual operational plan under the guidance of the officers of the Department of Agricultural Settlement and Audit Union of the HISTADRUTH. The day to day working of the farm is arranged by the farm management committee of the settlement. Each branch of the farming is in charge of a leader who is an expert in his branch. This leader gets his allocation of workers from this committee. He prepares every evening a programme of work for the following day and hands it over to the settlement office where the schedules so prepared by different leaders are consolidated and then exhibited before dinner time in the dining hall. Before going in for dinner, therefore, every member looks to the notice board on entering the dining hall to find out his allotted task for the following day. Every member is in duty bound to carry out the work and duties alloted to him or her since the whole plan of work on the collective farm is approved by the general assembly of the settlement in which every member has an equal say. There is, normally, no atmosphere of doing work under orders. In case a member is not satisfied with the task or work given to him or her, he or she is at perfect liberty to appeal to the farm management committee or even to the general assembly of the settlement. Normally, the committee in charge of farm management meets once a week, usually on saturdays, to discuss and fix up the programme of work during the following week.

Work starts early in the morning at about 6 A.M. in summer and about an hour or an hour and a half later in winter. The number of hours of work per day ranges from 8 to 10. The hours are more in summer and during peak periods. There is break of work in the noon and it is usully 3 hours in summer and one in winter. The weekly Jewish holiday falls on Saturday. There are, besides, other Jewish holidays, but their number is not large. It is reckoned that per member about 100 days are lost in a year on weekly holidays, other festivals and the annual holiday which a member is entitled to enjoy. The period of the annual holiday is about one week to 10 days, but not all members can enjoy it because of the budget limitations.

In planning the work, the general rule is to put men on farm and other heavy work and allocate to women duties in kitchen, dining hall, children's houses, dairy and poultry runs.

The unproductive work on the settlement like kitchen and dining hall duties, work in children's houses, laundry, etc. requires a substantial proportion of the total labour force in the settlement and it is reckoned that they absorb anything from 30 to 35% of the total number of working days for the settlement as a whole. Actual productive work on the farm, including settlement administration and subsidiary industries, account for 50 to 55% of the available labour force during the course of a year. The balance is accounted for by sickness, maternity, convalescence, holidays and interruption of work on the farm owing to heavy rains.

(d) AGRICULTURE OF THE SETTLEMENTS.

Mixed farming is the rule in all the settlements as would be evident from the following figures of proportion of income from the different branches of farming.

PROPORTION OF INCOME FROM DIFFERENT BRANCHES OF FARMING IN COLLECTIVE SETTLEMENTS IN 1942.

BRANCH.	PER CENT.
Dairying	22.3
Cereals	20.3
Vegetables ...	19.0
Fruit plantations 2nd plant nurseries ...	12.9
Poultry	11.6
Fodder	7.5
Apiculture, Fish ponds, etc. ...	3.4
Sheep and goats	3.0
	100.0

The earlier settlers followed the agricultural practices then existing in Palestine and went in for extensive type of dry farming. They also put some area under grape vines. But this monoculture type of agriculture was found to be soon unsuitable because of the saturation of markets for the products the settlers produced and the difficulties in procuring food for the members at a reasonable cost. The great difficulty, however, was about labour. Monoculture resulted in peak periods of labour requirements which the members themselves could not satisfy and long periods of slackness or no work.

Mixed farming, therefore, was thought of. But the greatest difficulty in adopting mixed farming was the absence of irrigation water, excepting in the case of the few settlements organised in swampy areas or by the side of rivers. In the majority of settlements there was no irrigation water available until 1930. Water could be obtained with great difficulty for drinking, domestic use and home gardens. From 1931, expert geologists, geo-physicists and engineers were engaged by the Jewish organisations with the object of finding irrigation water for the various cooperative farms. Hundreds of experimental borings were taken at great depths. For example, the drilling at RAMAT HAKOVESH collective settlement went as deep as 180 metres. Since then, irrigation has progressively advanced in all Jewish cooperative farms. Three water companies have been set up by the Jewish organisations with the object of tapping underground water, building reservoirs and laying out irrigation systems to serve a number of settlements at the same time. Some settlements on river banks (e. g. Jordan and Yarmuk rivers) organised joint irrigation system of their own and they now get their water supply from the rivers by way of pipe aqueducts and concrete canals. In the majority of the settlemets, however, the underground water is the chief source for irrigation. Consequently, wells, pumps, water towers, pipelines, hydrants and tanks are characteristic features of the largest number of cooperative farms in Palestine. Electric power is available at a cheap rate practically over the whole of Palestine and it is freely used in the irrigation system of the cooperative farms. Since water has to be obtained from great depths, irrigation is expensive.

The method of irrigating fields, therefore, is devised with the object of economising water and saving in labour costs. By far the largest bulk of irrigation

water is obtained from wells from where it is pumped straight up to overhead tanks which are located at the highest point of the settlements or farms. These water towers are an important characteristic of all established collective settlements and other cooperative farms. They are about 50 to 80 ft. high and give sufficient pressure for irrigating fields at different levels. The actual irrigation of fields is carried on by two methods. In one, water is carried in large pipes from the source of supply. At regular intervals there is a tap which is protected by a concrete surround. The irrigation water flows out of the concrete surround into channels going all over the field.

The other method, which is one of the most important characteristics of Palestine agricultural system, is the overhead irrigation by sprinklers. From the main pipe which runs along the highest portion of the field, smaller pipes are run underground all over the field at regular distances. At every 30 ft. interval, attached to the smaller pipes, there is a vertical connection on the top of which is attached a revolving sprinkler. Sometimes these sprinklers are placed at a height of about 20 ft. so as to water fruit trees as well as the land, but the low level sprinklers are preferred as they irrigate the land beneath the trees only. There is another method of overhead irrigation which cannot be actually used in fruit orchards but is often found useful in nurseries, vegetable gardens and fodder and other irrigated crops. At the pipe head where the sprinkler would be used, a rotator pump is fixed. To this pump, on either side of it, lengths of pipes are run out vertically on temporary supports about 30 to 40 yards apart. These pipes have jet holes at every foot and the rotator pump at the water head rotates these pipes back and forth at any required angle. The water jets from the jet holes on either side thus irrigating land 15 or 20 yards on either side of the pipes It is understood that 60% of the total irrigated area on all Jewish farms is now using the overhead system of irrigation.

There are no canal systems in Palestine similar to the ones found in India and even in areas where water is obtained from surface springs or rivers, it is conveyed in cement channels. When describing the Indian system of unlined irrigation canals and water channels to Palestine agriculturists, they thought our system most wasteful and some expressed that Indians were lucky to have so much water to waste.

Another characteristic of the cooperative farms is increased use of machinery in agriculture replacing partly the human and animal labour. In 1929 there were 7 draught animals per 1000 DUNAMS of Jewish farms. By 1943, this was reduced to 3 per 1000 DUNAMS. The extent of increase in the use of agricultural machinery may be judged from the following figures :—

	1939	1943
Tractors	184	243
Combines	55	88
Balers	37	63
Motor trucks	162	230

A few of the other noteworthy improvements in agricultural practices of the cooperative farms may be enumerated as under :

(i) SOIL FERTILITY MAINTENANCE.—The farm dairy and poultry supply valuable source of manure which is carefully oonserved and applied. In addition, green manuring and growing of leguminous crops is followed. Chemical fertilisers were more freely used till the outbreak of the World War II and there is every reason to believe that their use would increase immediately after supplies become more plentiful.

(ii) SOIL EROSION CONTROL by contour cultivation, terracing and planting of trees like cypress, eucalyptus and olives.

(iii) DRAINAGE OF SWAMPY LANDS. — This is done by digging trenches and the total amount of land so reclaimed is now reckoned at about 40,000 DUNAMS.

(iv) RECLAMATION OF SALTY LAND.—This work has been recently taken up in the Dead Sea area. A settlement organised on the Dead Sea coast in 1942 has been able to reclaim 35 acres of salty land within less than 2 years. The area roundabout this settlement is almost absolutely dry. The soil contains about 60% salts of which 15 to 17% are soluble salts. For reclaiming this land, plots with bunds are prepared and water from the adjoining Jordan river is pumped into them. The plots remain full of water continuously for a period of 6 to 9 months after which the soluble salts are reduced to to 0.3 %. The soil being sandy there is natural drainage and the soluble salts disappear by percolation. The water in the bunded plots is periodically changed. The operation is undoubtedly laborious and expensive and the cost per DUNAM has worked to LP. 27. The resulting beautiful and green vegetabe crops and fruit plantation are undoubtedly impressive, but the cost of reclamation and adding enough organic matter before commencing cultivation seems prohibitive.

(v) CROPS.—Estimates of yields of different crops in Palestine are defective. There are no standard yield figures. As such it is difficult to make comparsion of yields obtained on the Arab and Jewish farms and also to judge the exact nature and extent of increase in the output resulting by adopting improved methods of agriculture. So far as the dry crops are concerned, there is a great variation in the output per acre not only from year to year but also from one district to another during the same year. This is obviously due to the large variations in climatic, soil and rainfall conditions in different parts of Palestine, which have already been described earlier. For example, it is estimated that the yield of wheat in 1937 ranged from 12 Kgs. per DUNAM in the Beersheba district (south Palestine), having the largest area under wheat amongst all the districts of the country, to 94 Kgs. per DUNAM obtained in Tulkarm district in north Palestine.

Wheat and barley are the foodgrain crops of the country. These two crops along with other cereals and pulses account for the largest area of Arab agriculture. The best Arab lands, therefore, are put under wheat and barley. On the other hand, under the system of mixed farming followed by the Jews, the best lands are put under fruits, vegetables and green fodder where irrigation is available and foodgrains are generally taken on the poorer grades of soil. In spite of this, however, the output per acre of Jewish farms is much higher. According to figures published by the Palestine Government, the average per acre output of foodgrains in 1944-45 on the Jewish farms worked out to 688 lb. as against 416 lb. obtained in Arab agriculture. The better output on the Jewish farms is very largely due to the adoption of better rotation, manuring and selected seed. The Agricultural Research and Experimental Station of the Jewish Agency constantly advises the Jewish farms in the matter of seed, manuring and cultivation.

Important wheat strains obtained from seed improted from Australia and Morocco have been introduced and a four-year rotation, which includes green manuring, has been adopted by a large number of Jewish farms. All farm-yard manure is carefully conserved and the Jews manure even their dry lands once in 6 to 8 years. On the other hand, large part of the cow dung in the Arab villages is burnt for fuel and there is always scarcity of manure in Arab agriculture where even green manuring has not been adopted. The average yield of wheat on Jewish farms is about 125-130 Kgs. per DUNAM, though an average of 200 Kgs. per DUNAM has been obtained in many Jewish settlements where land is manured once in 6 to

8 years. The average on Arab farms works out to hardly 70 Kgs. of wheat per DUNAM. The yield per DUNAM of barley on the Jewish farms is about 150 Kgs. as against 50 to 60 Kgs. obtained by the Arab farmers. The Palestine Government Department of Agriculture attempted to introduce improved strains of wheat and barley seeds amongst the Arab farmers, but according to the latest Government report "there has been little or no general improvement". It may be generally observed that the per acre yield of foodgrains in Palestine is amgonst the lowest in the world due to large proportion of inferior soil and low rainfall.

In the case of garden crops also the Jewish farms have shown better results. In 1944-45, the per DUNAM output of all vegetables on Jewish farms came to 2,550 lb. as against 1,880 lb. on Arab farms. Similarly, the output of fodder crops per DUNAM was 3,300 lb. on Jewish farms as against 1,940 lb. on Arab farms. The outturn of fruits (excluding citrus) was 462 lb. per DUNAM with the Arabs while the Jewish farms recorded an average of 1,290 lb. per DUNAM. The better results on the Jewish farms are due to (i) use of right type of seeds or plants for the collection and distribution of which special arrangements have been made by the HAMASHBIR, (ii) rotation, (iii) manuring with farm-yard manure, green manuring and artificial fertilisers, and (iv) the large scale on which the different farm operations are done on the Jewish farms.

(vi) DAIRY FARMING —From the agricultural point of view, the greatest progress has been made in dairy farming as would be evident from the following figures of average annual milk yield per cow on all Jewish farms in Palestine :—

YEAR.		MILK YIELD (IN LITRES.)
1920	...	1,000
1930	...	2,000
1934	...	3,000
1939	...	3,500
1945	...	3,850

These average yields are considered to be amongst the highest in the world. Record yields of individual cows fluctuate from 8,000 to 9,000 litres per annum. Some of the cooperative farms actually possess herds averaging 5,000 to 6,000 litres per cow. The extent of improvement in the milk yields could be better appreciated if it is mentioned that the local cow in Palestine yields hardly 500 to 600 litres per annum.

The most important factors responsible for such precipitate rise in milk yields may be stated as under :

(a) Upgrading of the stock by breeding and selection. This has been brought about by importing Damascus, Beyrough, Dutch and Friesian breeds. The most suitable animals so imported are crossed with the local or Damascus breeds to ensure immunity to disease and high milk yield. The number of pedigree cows on all Jewish farms (cooperative and others) in 1944 was 17,000 as against 9,500 in 1939. The young stock (heifers and calves) numbered 12,500 in 1944, as against 5,000 in 1939. Almost the entire stock of milch animals, therefore, consists of improved type.

(b) Due to outbreak of War in 1939, imports of dairy products like butter, cheese, condensed milk and milk powder stopped, and it paid the farmers to increase their output of dairy industry.

(c) All dairy animals on Jewish farms are stall fed and for that purpose special green and other fodder crops like berseem, oats and vetch, maize, etc. and hay are raised. Where water is available, artificial pastures on irrigation are maintained for grazing the milch animals.

(d) Balanced concentrated feeds containing oilcakes and cereals are regularly given to milch cows.

(e) Special precautions are taken against epidemics and diseases. Nobody is allowed to enter the cattle yard without dipping the bottom of his or her shoes in disinfecting baths constructed at the entrance of the yard. Even carts and other conveyances must pass through this bath. As a matter of fact, the first thing one notices while entering any collective or cooperative farm is the disinfecting foot bath through which everyone and every conveyance must pass before entering the farm.

(f) Artificial insemination is widely practised on all collective and cooperative farms.

(g) The efficient arrangements for cooperative sale and purchase have resulted in considerable saving in time and money in the matter of procurement of all requirements of the dairy and disposal of dairy products, including slaughter stock.

(vii) POULTRY —Similar has been the progress made with poultry. The number of laying hens increased from 25,681 in 1927 to 650,000 in 1945. White Leghorn is the most common breed maintained on the cooperative farms and it is also used for cross breeding with the local fowls. The average production of eggs per hen increased from 92 in 1938 to 113 in 1945. Several settlements record an average of 150 to 180 eggs per bird. All settlements possess incubators. The arrangements made in the poultry runs are quite elaborate and scientific. Latticed floor raised above the ground level to enable collection of droppings-a highly valuable manure — can be seen in a very large number of settlements. Several settlements have arranged sprinklers on the roofs of hen houses to relieve summer heat and this has been found beneficial to the health of the birds and have prolonged the laying capacity of hens. Poultry feed is scientifically prepared and the HAMASHBIR prepares and sells to the settlements special chicken feed containing animal proteins.

(viii) SHEEP FARMING.—The Jewish cooperative farms have about 20,000 sheep maintained mainly for their milk. By adopting improved feeding, better grazing and breeding, the milk yield has been considerably improved. The average milk output per ewe on cooperative farms works out to 189 litres per year as against 50 or 60 litres obtained from the indigenous animal. It is understood that in several cases this milk yield has exceeded 400 litres per year. Wool is considered next in importance to milk in sheep farming. Meat, skins and manures are reckoned as subsidiary products. Generally, the sheep are not raised for slaughter.

(ix) FISH PONDS —51 coopetative farms are now maintaining fish ponds covering nearly 7,500 DUNAMS. The annual output obtained is reckoned at 1,153 tons of fish. This is entirely a recent development, as experiments in pisiculture were first started by the settlements only in 1939 over an area of 5 DUNAMS. Salty soil, saline waters and marshes are expolited for fish ponds. The average yield per DUNAM is estimated at 170 Kgs. Fertilising, feeding and breeding are scientifically practised and the members of the settlements working on the fish ponds have now become experts in their line. Efforts are made to control breeding with a view to coordinating supply and demand and ensure regular supply of fish throughout the year. Special storage and transport facilities have been established with the object of supplying live fish to the market. For this purpose, the settlements usually

builds a large water storage tank where the live fish are kept immediately after they are caught in the ponds. Where the ponds are located at a distance, the fish from the ponds are carried in barrels full of water. Transport to the market is done in small tanks filled with water and transported by specially arranged motor trucks.

(xv) SUBSIDIARY INDUSTRIES.

A large number of settlements have organised subsidiary industries with the object of (i) absorbing more members, (ii) providing work to members who are otherwise not fit for agricultural tasks, (iii) providing work to members especially enthusiastic and adapted to non-agricultural pursuits, (iv) finding additional employment during slack agricultural periods, (v) having additional funds of income from land is not enough to maintain the settlements, and (vi) providing requirements of the settlement itself, e.g. lock-smith workshop, carpentry, workshops for repairs, etc.

All these subsidiary industries were begun on small scale but some of them have by now been so highly organised that they yield a major part of the income of a few settlements. The members working in these industries have now become specialists and produce articles which can compare with any produced elsewhere. Many of the workshops and industries have become regular factories employing a large number of persons. The factory for manufacturing wooden boxes at the AFIKIM settlement, for example, provides work for over 100 members. During the World War II, this factory could secure War orders and has now become a specialist concern. A very large proportion of packing cases, vegetable crates, etc. used in Palestine are manufactured by this factory. Three settlements have factories for manufacturing fruit products and canning vegetables. The largest of the three employs over 50 persons per day. All the three have formed themselves into a cooperative society for the purpose of coordinating the productive activity and organising sales and distribution through the HAMASHBIR. The factory at the ALONIM collective settlement specialises in wood work for agricultural implements and machinery and for vehicles. There is a factory for manufacturing water meters, pumps, fire extinguishers, etc. at Dalia. Overhead irrigation sprinklers are manufactured at GIVATH BRENNER which also possesses the largest factory for manufacturing fruit products mentioned above. One settlement has organised an industry for manufacturing cotton and woollen knitted wears. There are several workshops for repair of agricultural machinery, motor cars and trucks and most of them are equipped for complete overhauling of even an expensive car. Several other settlements have organised industries for manufacturing wooden barrels, nails and screws, shoes, metal work, bricks, furniture, mats and panelling for construction and insulation purposes, cloth pins, etc. The cloth pins manufactured by one settlement are exported abroad and some are sent even to India.

A few settlements have established sanatoria, recreation houses and holiday resorts where people from town and other settlements go for rest and recreation. The Sanatorium at GIVATH BRENNER specialises in giving to visitors only vegetarian food under perfect and pleasing rural surroundings and in the vicinity of the settlement's own small forest.

A very large number of these subsidiary industries owe their origin to one or more members who before coming to Palestine were actually industrialists or expert worksmen in their respective lines.

In settlements where subsidiary industries are organised, the general assembly appoints a special sub-committee for that purpose. This sub-committee then gets its own allocation of budget and labour force. The day to day working of the industry is executed by this sub-committee with the assistance of leaders appointed for the different branches of the industry.

(xvi) MARKETING.

All sales and purchase work of the settlements is done through the HAMASHBIR and TNUVAH, the central marketing organisations of all the cooperative farms in Palestine, the working of which has already been discussed earlier. There is a net work of perfect roads all over Palestine and this enables quick transport of the perishable products which account for the largest bulk of the cash income of agriculture of all settlements. Rail and water transport is hardly used by any settlement for its sale and purchase activities

(xvii) COMPARISON WITH COLLECTIVE FARMING IN RUSSIA.

The main objects in introducing collectivisation in agriculture in Russia were (i) consolidation of land which was extremely sub-divided and fragmented, (ii) to adopt technical improvements in arable and livestock farming, (iii) to increase use of improved agricultural implements and machinery, (iv) to increase agricultural output for the country as a whole, and (v) to release from agriculture, a large population for industries and other national activities. At the same time, it has been recognised that every farmer must live and eat individually with members of his family.

The basic principles of the "Model Rules of Agricultural Artels" are that :—

"All boundaries that formerly separated the plots of land belonging to the members of the Artel shall be abolished and all the fields shall be converted into a single expanse of land which shall be used collectively by the Artel.

"The land occupied by the Artel... .... is ensured to the Artel in perpetual tenure, that is, for ever and may be neither bought and sold nor rented out by the Artel.

"From the socialised land, each household in the collective farm shall be allotted a small plot consisting of land adjoining the dwellieg place (kitchen garden or orchard) for its personal use.

"The area of the household land for the private use of a collective farmer may range between ¼ of a HECTARE to ½ of a HECTARE snd in some districts 1 HECTARE.

"The dwelling house of a collective farm family, its private livestock and poultry and buildings necessary for maintaining the livestock which is personally used by the collective farm family, are not socialised and shall remain at the personal disposal of the collective farm household."

Each collective farm, therefore, consists of homesteads owned and enjoyed by farmers who are members of the collective farm, the common cultivable and pasture lands, implements, machinery and livestock and the collective farm and social buildings. A production plan for each collective farm is prepared and executed under the supervision of an agricultural expert of the State. All the members form the general body of the collective farm and elect office bearers and a number of committees for working the farm. The actual farm work is done by brigades under the guidance of a leader appointed by the appropriate committee. The general body has got full powers of admitting and expelling a member. It also decides on the division of income of the collective farm amongst the members.

The average collective farm (called KOLKHOZ) has 78 homesteads with 342 people of whom 149 are able bodied persons above 16 years of age. The area of a collective farm varies considerably but the average is around 1,500 acres.

There are now a quarter of a million collective farms in Russia with a population of 75 millions of peasants on an area of 104 million HECTARES. In addition, the State farms (called SOVKHOZY) occupy 16 million HECTARES. The remaining 10 million HECTARES of sown area in the country still belong to individual farmers and small cooperative peasant associations, the total number of which does not exceed 5 million people. It is claimed that the collective farms produce nearly three-fourths of the total value of agricultural products in the whole country.

The collective farm holds its land in perpetuity and is not empowered to sell, rent or otherwise transfer the land. It is also not permitted to keep any land fallow or uncultivated on its own responsibility. Immediately after harvest, the collective farms pay, in the first instance, the Government tax which is in kind and which roughly amounts to one-fifth of the total output. For the services rendered by the Motor Tractor Service (a government organisation possessing 5 million tractors with 182,000 combines) another one-fifth of the total output is paid. Payment for milling grains amounts to one-tenth of the grain brought for milling, while 10 to 15% of the total output is reserved for seeds. There are also deductions for social, educational, health and cultural purposes. On an average, therefore, about one-third of the total output remains at the disposal of each collective farm. Wages to specialists, for hired labour, if any, and some other local needs have to be paid from this residue. The balance is then divided amongst the members of the collective farm on the basis of 'labour days' spent on work on the common fields. This would include a certain amount of cash realised by the collective farm by the sale of surplus products. In addition, the individual member of the collective farm retains whatever he produces on his homestead.

Each farm has its own school, dispensary, creche and a common meeting hall, apart from the collective farm buildings and sheds. Expenses over all such items are debited to the collective farm as a whole.

It has been claimed that the collective organisation of Russian agriculture has resulted in an increase in the total output to the extent of at least 33% and that the income of an average farmer has risen by about 4 times during the past 15 years. The increase in agricultural output and in the income of the farmer have resulted in a great improvement in the standard of living and in supporting on agriculture a much larger population.

It would be clear from this brief account of collective farming in Russia that the collective settlements in Palestine are more advanced than the Russian KOLKHOZ and exhibit the most advanced type of socialist life in the world. Unlike the development of collective and cooperative farming in Palestine, the Russian system is compulsory and enforced by the State. Wages or net return to an individual farmer from the collective farm depend on the amount of work he has put on the collective farm. The collective farms in Palestine, on the other hand, do not recognise wages and private property of individual members and aim at getting out from every member what he or she can give and permitting to each member what he or she requires. The capacity to give and take is of course limited by the productive efforts of the members and the financial position of the collective farm.

IV. SMALLHOLDERS' COOPERATIVE SETTLEMENT. (MOSHAV OVDIM)

(i) CHARACTERISTICS AND OBJECTS.

These cooperative farms can be divided into two distinct groups from the point of view of the amount of capital possessed by the members at the time of organising the settlement. The first group consists of middle class settlers who

had capital of their own at the time of settling on the farm. Prominent amongst these are the settlement of Jews from Germany established very largely during the past 12 years. Unlike many other settlements, the German smallholders' cooperative settlements contain professional people like physicians, lawyers, university men, teachers, etc. who are now working on their own farms in the cooperative settlement. The number of such middle class settlements is 37 with a total population of 12,500. The other group consists of members who had no capital of their own and who had, therefore, to borrow from the J. F. F. and other Jewish organisations at the time of commencing farming. There are 62 such settlements with a population of 17,000.

It is noteworthy that the first smallholders' cooperative settlement was established by former members of collective settlements who did not agree with the working of collective farms from the point of view of family life and incentive to hard work.

All the smallholders' cooperative settlements are registered under the Cooperative Societies Ordinance of Palestine and the main objects are (i) to organise and bring about the settlement of members as farmers following the principles of self-labour and individual possession, (ii) to enter on behalf of the members into collective agreements for the acquisition of land or rights in land for the settlement of members and to arrange for the partition of such land and their allocation amongst members (iii) to organise in the settlement common collective activities of production, cultivation, sale or purchase and (iv) to maintain in the settlement public institutions and other communal services and generally to undertake any of the functions which are customarily performed by local village authorities. Only Jews who are active workers and above the age of 17 are eligible to membership.

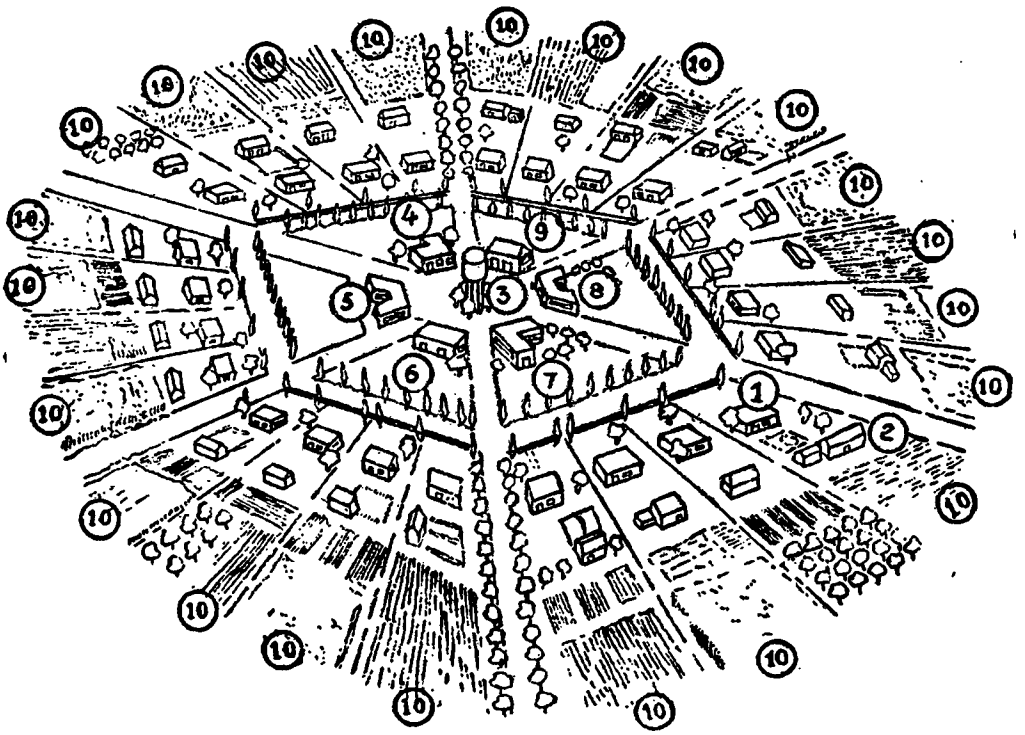
The principal characteristics of these farms are (i) nationally owned land, (ii) every member gets only that much area which he or she can cultivate with the help of the members of his or her family and which would give to the family a reasonable standard of living, (iii) independent living with normal family life, (iv) no outside labour permitted except during emergency (v) mixed farming with a view to self-sufficiency and with the object of spreading work throughout the year, (vi) compulsory cooperative sale and purchase, (vii) mutual aid and (viii) common services for the settlement as a whole in respect of education, cultural and religious needs, health, sanitation, etc.

(ii) DIVISION OF LAND.

Most of the settlements are established on the J.N.F. land. The lease is for 49 years as in collective settlements and is generally executed with the settlement as one body. There are, however, a few instances where the J.N.F. has leased out the land direct to individual members of the settlements but the general policy is to lease out the land to the settlement as a whole. The work of allocating the land so acquired amongst the individual members is done with the assistance of the Planning Bureau of the Department of Agricultural Settlements of the Jewish Agency which prepares a blueprint of the whole settlement indicating the location of common social buildings, gardens and roads, members' individual dwelling houses including houses and homesteads for the settlement employees, professionals and artisans and the lay out of the farm for each individual member. The division of land amongst the individual member in accordance with and situation is always the greatest headache of the Planning Bureau, but the quality general principles are that every member should have an equitable share in the different qualities of land and that the total allotment to a family should be such as the family can cultivate with its own labour and would give the family an income to maintain a reasonable standard of living. For this purpose no

MOSHAV OVDIUM (Smallholders' Cooperative Settlement)

1. Settler's house 2. Stables 3. Water tower 4. Cooperative Dairy 5. Artisans' houses 6. Dispensary 7. School 8. Lecture Hall 9. Central store 10. Fields alloted to individual-settlers.



account is taken of the size of an individual family, but the average variation in the family sizes is not large. Experience has shown that very frequently the first parcellation made, before cultivation begins, leaves something to be desired. In all such cases readjustments are made as far as practicable.

The whole area of the settlement, therefore, consists (i) allotment to individual members, including members' dwelling place, cowshed, poultry run, etc. and (ii) the area set aside for public buildings, roads, gardens and small allotments for the professional and artisan members. It is reckoned that about one-tenth of the area of the whole settlement is required for common purposes.

(iii) SIZE OF FARM.

As in collective settlements, the size of an individual farm greatly varies from one settlement to another depending upon the intensity of culture resulting from the amount of irrigation available and also upon the fact as to whether income from farming would be or would not be enough for a reasonable level of life to the farming family. The two criteria are enough land to be worked up to the optimum by the family with its own labour and income from land which would not be smaller or greater than what is needed to maintain an average standard of living.

The basis of land allocation is the same as followed by the J. N F. for collective settlements, VIZ., about 25 DUNAMS of irrigated land or about 100 DUNAMS of dry land per family (a unit of one man worker and one woman worker). The arithmetic average for all smallholders' settlements would be around 45 DUNAMS of dry and irrigated land per family.

The number of families in a settlement generally varies between 50 and 100. 50 families are considered as the minimum economic unit for organising a smallholders' cooperative settlement with the object of defraying economically all the common expenses of the settlement on education, cooperative societies, roads, public buildings, etc.

(i) COMPOSITION OF POPULATION.

The population of smallholders' cooperative settlement consists of (i) members, men and women, (ii) children, (iii) old parents and old relatives, (iv) trainees whom most settlements accept as source of additional labour, (v) servants and paid officials of the settlement, and (vi) professional people and artisans working on the settlement. All are Jews.

LAY OUT.

Though every member gets an allotment in the different qualities of the soil, in no case the lay out of the farm is in fragments, situated at a distance from one another. The settlement or village is planned in the form of a big circle or wheel. Common buildings like the school, dispensary, public hall, premises for cooperative societies, etc. are located at the centre of the circle. In the ring just outside these common buildings there are the members' dwelling houses built at equal distances with cattle shed and poultry run for each in the back and a small area in front of the dwelling house for garden. Behind the dwelling house or farmstead is an area devoted to fruit and vegetable growing as also for raising green fodder for cattle. The area in the outer periphery of the circle is a dry land where unirrigated crops are grown. The fields and dry crops are divided in such a way as to form a series of 3 or 4 concentric circular belts in each of which the same crop is grown by every individual member. This facilitates cultivation and the guarding of the crop against thieves, while it is most convenient to harvest for machines owned by the settlement as a whole are used.

Normally, the same amount of land is allotted to every individual member but if soil variations are large, adjustments are made so that each family would get enough land to make out a decent living. The actual allocation of the plots laid out in the plan prepared at the time of organising the settlement is done by mutual consent amongst the members themselves or, in the alternative, by drawing lots, after which no member can complain about the parcel of land allotted to him.

(vi) ECONOMIC EQUALITY.

Every member gets the same size of holding and the same initial budget from the J. F. F. excepting in the case of middle class settlements where members may possess capital of their own. An equal opportunity is, therefore, assured to every member. In most settlements the contributions towards common activities like education, health, sanitation, cultural needs, etc. are made by members on equal basis irrespective of the size of the family. Every effort is made to ensure continuation of the initial economic equality amongst the members. In spite of this, however, economic inequalities amongst the members of the different settlements are quite common and these are understood to be very largely due to the number of members in the family, physical capacity and skill of the workers and misfortunes like illness or death in the family, loss of cattle or poultry or failure of crops.

(vii) ARTISANS AND PROFESSIONALS ON THE SETTLEMENT.

There are three categories of non-farming persons staying on smallholders' cooperative settlement. There are the servants and officials of the cooperative societies of the settlement and the school teachers. Doctors and nurses are the employees of the Sick Fund of the HISTADRUTH but they stay on the settlement. Every settlement has a trained nurse but the doctor works for a group of settlements. There are, besides, artisans like the butcher, baker, cobbler, etc. who usually receive no wages but are paid for the job they do for individual members according to a scale fixed by the general council of the settlement. Normally, these wages are fixed at a figure approximating the normal earnings of a farmer less the value of produce to be grown on the small allotment of 2 to 5 DUNAMS placed at the disposal of the village employee. In some settlements the artisans receive a monthly pay. In all cases the village artisans and professionals share with the farming members in all common expenditure of the settlement except on matters which are purely agricultural. In the majority of settlements, the village employees are admitted as members so far as common activities excepting farming are concerned.

(viii) ECONOMIC ACTIVITY.

(A) INDIVIDUAL.

Every farmer gets his own house and allotment of land. The houses are constructed on a uniform basis. In the small plot attached to the house the farmer can grow flowers, vegetables or fruit. He has his own milch cattle, work animals and poultry, but the policy of maintaining a particular breed or type of cattle or fowl is dictated by the general assembly of the settlement. The majority decision of the general assembly is binding on all members. The farmer has his own stock of ordinary farming implements. He pays for electricity and water used in his house and farm according to the quantity consumed. In the irrigated area of his farm he can take any crop he likes, but the cropping scheme in the unirrigated portion of his allotment is decided by the general assembly of the settlement in a manner which would enable economic use of agricultural machinery like tractors and harvesters and to arrange for watching against pilfering and theft.

The individual farm has no regular boundary marks, the small patch in between two adjacent farms acting as a dividing line between the two farms. The irrigated

portion of the farm may have boundary marks consisting of a small BUND but this is not the general rule. Neighbours have free access to each other's farms, but normally such permitted trespassing is not common. Every farmer minds his own business. In the unirrigated portion of the farm there are no boundary marks, the small path lying in between two farms acting as a line of division. Sowing of the dry farm is done by the farmer himself, but operations like harvesting, threshing and binding are done by machines possessed on a cooperative basis by the settlement as a whole. Similar is the case for tractor ploughing. When operations by the cooperative machines are to be performed, the individual members are given notice in advance so that they would be present on their portion of land at the time of the operation. No such presence is required for ploughing. But, during harvesting, every member or his representative is present on the plot to see that the harvesting and threshing is done properly. In most settlements these operations have been so highly organised that the individual farmer member gets his grains, hay, fodder, etc. packed or baled, as the case may be, on his farm itself, and then afterwards the packed produce is delivered at his farmstead. The farmer is, therefore, not bothered about threshing, packing and transport up to his house. The costs of operation of the cooperative machines are calculated at the end of the year and shared equally amongst the farmer members since the area put under dry crops by the various members is very nearly equal.

Mixed farming is the rule in all smallholders' cooperative settlements and bulk of the cash income is derived from the milch animals, poultry and eggs, vegetables and fruits. The largest bulk of the cereal crops is consumed by the farm family. It is compulsory that every member must sell his surplus produce through the cooperative organised for the settlement as a whole.

Every individual farmer has to pay to the settlement funds a fixed amount per year to cover common expenses of the whole settlement like rent of J. N. F. land, education, library and other cultural organisations, watch and ward services, sickness insurance, water and irrigation arrangements, etc. When a farmer is down on his luck, he gets exemption from the payment of these taxes, wholly or partially, in which case the equal contributions made by other members are increased correspondingly. In some of the new settlements a practice of fixing this charge on the basis of income of the individual farmers is being adopted. For this purpose, the volume of sales of the farmer through the settlement cooperative is taken as a guide.

It is significant to note that there are no subsidiary industries in the smallholders' cooperative settlements. Every member depends for his livelihood on the income from land. Since the profit motive plays a dominant part, it is commonly observed that farmers and their families in the smallholders' cooperative farms work much harder and longer hours as compared with members of collective farms. Instances were quoted where during busy periods the farmer and his wife worked for 12 to 14 hours a day. In consequence, the intensity of culture and the output per farm is in several cases higher on smallholders' cooperative farms than on collective farms. Since after the beginning of War in 1939, prices improved and the repayment of debts by smallholders' cooperative farms has been greater than by the collective farms. On the other hand, as has been already noted, a large number of collective farms have adopted a policy of absorbing as many immigrants as possible and with that object they invest a substantial part of their profits for increasing their productive capacity. On the basis of total number of inhabitants, it may be reckoned that 70 to 75 % of the total population on smallholders' cooperative farms is engaged in agriculture as against 50 to 55% of the population in the collective settlements. The balance of the population on the smallholders' cooperative settlements consists of professionals and artisans. On the other hand, the balance of population on collective farms is almost entirely engaged in subsidiary industries.

Cases where members of smallholders' cooperative settlements have given up farms have been rare, but there is provision in the rules of the settlement according to which any outgoing farmer can claim compensation. If a member wants to leave, he can approach the general council of the settlement which then appraises the value of the farm of the outgoing member and interviews the prospective purchaser. The advice of experts of the Department of Agricultural Settlement of the Jewish Agency is always available for such evaluation. If the seller and purchaser agree on the price and if the latter is acceptable to the general council of the settlement, the transfer becomes effective after the concurrence of J.N.F. Such transfers, however, are permissible only within the Jewish community. A member can transfer his estate to his son provided the son actually works the farm with the assistance of his family. If a member dies without leaving a grown up son, the farm can be worked by the wife on her own responsibility. But, if she requires assistance, there is provision under the mutual aid system about which reference will be made later.

(B) COOPERATIVE OR COLLECTIVE.

Almost every settlement differs from the other in the matter of the precise activity organised cooperatively and the point at which the conomic independence of each farm family begins. Common to all settlements are the cooperative societies for selling the farm produce and purchasing the farm and household requirements, education, cultural and other social amenities of the settlement, arrangements for irrigation and water requirements for the settlement as a whole, health and sanitation, watch and ward service for the whole settlement and other mutual aid arrangements. In some settlements all production activities on the farm are done by the farm family. In others, part of the farming operations is done jointly and this is almost entirely restricted to tractor ploughing and harvesting and threshing machinery. At the other extreme there are 4 settlements where all the land of the settlement is worked jointly while each family eats and lives separately. The working of this latter type would be described separately later.

The general council of members (men and women) of the settlement is the supreme body in all the economic, social and cultural affairs of the community. Though there is provision for secret ballot, questions are usually decided by show of hands and majority decision is binding on all members. The general council annually fixes the budget and appoints a village committee of 10 to 15 members to look after the day to day administration of the whole settlement. Committees are also elected to look after education, watching the settlement, arranging mutual aid to members and for trying cases or disputes between members or between members and the various settlement organisations.

The settlement itself is a registered cooperative body but most settlements have genearlly two other cooperative societies, of which one is the cooperative store where every member must buy all his domestic and farm requirements. This store also sells the daily requirements of meat and baker's bread. The other cooperative society embraces a larger number of objects the more important of which are (i) arranging to sell the farm produce received from members through the TNUVAH, (ii) maintaining a dairy, incubator and cold store facilities for the benefit of the members, (iii) maintaining the village water supply for drinking and irrigation, (iv) maintaining and operating agricultural machinery for ploughing, harvesting, etc. for the use of members of the settlement, (v) maintaining village stud bull service and facilities for artificial insemination, (vi) Operating a flour mill, (vii) providing members with guidance in all branches of farming activity and particularly in fruit cultivation, (viii) arranging general schemes for fighting the various pests and diseases, (ix) maintaining facilities for passenger and freight transport between the settlement and the nearest market town, and (x) receiving credits from outside for the establishment of common buildings and facilities for providing farmer members with loans. With a view to assist members in adopting the correct methods

of farming, the society also appoints small sub-committees from amongst its members for fruit cultivation, animal and poultry breeding, vegetable cultivation and other farming branches.

In some settlements the two cooperative societies are administered directly by the village committee of the settlement, while in others, they are organised and managed as separate cooperative institutions. With a view to avoid duplication of work a tendency has been recently noticed to have only one society to deal with all aspects of production, sale and purchase activities of the members.

The degree of cooperative sale of farm produce and purchase of household and farm requirements through the settlement cooperatives, however, varies considerably from one settlement to another. In some, only milk, eggs, poultry and fruit are marketed cooperatively through the settlement cooperative which pools the produce, grades it and sends it for sale to the TNUVAH society. The member farmers accept the pooled price. In others, the produce is sold by the members either to the TNUVAH direct or to some other purchaser. Such sales, however, must take place through the settlement cooperative. There is no pooling, but normally, each farmer brings his produce properly graded. In still other settlements, only milk is sold through the cooperative of the settlement to the TNUVAH while all the other products are sold separately but direct to the TNUVAH by each member through the village cooperative. In this case, only the milk is pooled and the other products are sent to the TNUVAH in the same condition as are received from the farmers. The cooperative consumers' store of the settlement sells all the requirements of the farm and household. It gets its supplies from the HAMASHBIR. Normally, the members purchase all their requirements from the cooperative store but they are free to buy elsewhere if it is found that the prices charged by the store are higher than those prevailing in the nearby market. It is understood that such outside purchases are small and probably not more than 20% of the total household requirements and are very largely confined to clothing and footwear.

Every settlement has a mutual aid fund to which every member must contribute an equal amount as fixed by the general council of the settlement. If a member or his wife falls ill or there is some accident in the farm family, other members must compulsorily assist in case the dislocation is temporary. On all such occasions another farmer cares for the farm of the unfortunate farmer or sends his wife or daughter to look after the household in case the unfortunate farmer's wife is ill or in confinement. If the dislocation is likely to be of long duration, hired labour is engaged and paid for from the mutual aid fund. In cases of chronic incapacity, permanent hired labour is provided through the mutual aid fund until the children of the farmer become old enough to take over the farm work. Similar arrangements are made if the head of the family dies. Outside hired labour may also be necessary when a member is called upon to render public service either in Palestine or outside. In such cases, the wages for hired labour are paid by the member concerned. There have been several cases where the members enlisted in the Army during the last War or were elected to work in other Jewish organisations in Palestine like HISTADRUTH, HAMASHBIR and TNUVAH. The mutual aid fund also gives temporary loans to members.

In the majority of the settlements the joint body of all members, registered as a society, is responsible for the settlement land obtained from the J.N.F. It also takes joint responsibility for securing loans for the settlement members and distributing them amongst the individual farmers. Every member, therefore, is responsible to this society for the payment of rent for the J.N.F. land and for the repayment of loan with interest for the advances taken. The society also arranges the installation of water, irrigation and electric systems and every member is charged according to the extent to which he uses those facilities. Every farm and household have electric and water meters.

The organisation and working of other common activities of the settlement like education, health and sanitation, cultural and other activities, etc. are the same as those found in collective settlements. All members must contribute equally towards expenses of all these common activities irrespective of the size of their families, though some settlements have recently begun to fix such contributions on the basis of income of members. Provision exists for exempting, partially or wholly, members who are down on their luck and exemptions so given are made up by the remaining members on equal basis.

(ix) ORIGIN AND DEVELOPMENT.

The first cooperative smallholders' settlement was organised in 1921 by immigrants who had first joined a collective settlement but who found the working and organisation of a collective settlement as unsuitable from the point of view of normal family life and exercise of initiative and free play of abilities by members. These pioneers of smallholders' cooperative farms, however, found conditions probably as hard as those experienced by the pioneers of collective settlement and the following extracts from a pamphlet issued in 1942 by the Nahalal Smallholders' Cooperative Settlement would be of interest.

"We occupied our land on the 11th of September, 1921. It was desolate and covered with swamp. The Arabs in the neighbourhood warned us against settling on it. They told us that some years before a group of Germal farmers had tried their hand at redeeming this plague-spot. Most of them had died of malaria, and the rest had abandoned the enterprise in despair. Our medical advisers, too, warned us that we were taking a foolhardy step. ... ...

"The land had been placed at our disposal .. ... by the Jewish National Fund. Our first job was to lay out a system of drainage canals to lead the water from the swamps into the nearby river ... ... we started work in earnest. That early period was not easy. Malaria was a constant threat hanging over our heads. Our work in the swamps was disturbing the mosquitos ... ... and they took a terrible revenge on us. There were days when half of us were down with fever. As we proceeded with our work, however, the incidence of the pest declined and after a few years, disappeared entirely. Nahalal is no longer in the malaria danger-zone.

"The springs on our land whose waters had been allowed to overflow over a period of centuries - thus causing the swamps-were considered poisonous by our Arab neighbours. After we had drained the swamps and cleaned the springs, we discovered that this was nothing more than mere legend. The waters were pure and healthy for man, beast and plant, and are a source of blessing to us.

* * * *

" We had absolutely no property of our own and were handicapped, in addition, by our inexperience. The country around us was desolate, there were no decent communications, and there had been very little in the way of a scientific investigation of the agricultural problems which confronted us ... Fortunately, in the very year in which our village was founded. the Zionist movement established the Jewish Foundation Fund (KEREN HAVESOD) .. ... It nonetheless granted us loans for the purchase of livestock and machinery, the building of huts and other necessary investments ... .. In all, the Foundation Fund provided each settler with an average loan of L.P. 600—700. Now that our village is consolidated, we are repaying these loans at the low interest of 2% over a period of 49 years.

" ... ... We soon found that there were all sorts of factors which we had not taken into consideration. The sub-tropical climate makes it essential to keep a vigilant watch against natural pests which threaten our crops. More-

over, we had frequent difficulties at first with wandering shepherds and thieves ... ... Then there was this vexed question of our lack of experience as farmers; which led us into more than a few costly mistakes. As though these were not enough, we were visited by calamity at the hand of nature itself. A plague of field-mice destroyed our entire crop one year and continued to cause us trouble for a few years later. No sooner had we weathered this particular storm than our dairy cows were destroyed in a cattle-plague. That was a blow from which it took us a long time to recover.

" It is no wonder that on several occasions we thought that our work could not possibly succeed. Many of us, in addition to the loans we had received from the Jewish Foundation Fund, were forced to borrow money at high rates of interest, in order to tide ourselves over the difficulties we were experiencing. As time went on, however, our position improved. We were learning from our mistakes, and were helped considerably in this by the Agricultural Experiment Station ... ... Rehovot, and ... ... the Government Department of Agriculture. ... ... Our cooperative institutions played an important part in assisting us to consolidate our position. ... ...

" When Nahalal was founded, its 75 families numbered 200 souls. Today, after more than 20 years, there are still 75 families, but the total population of the village is 750. This includes our children and aged parents, the professional members and artisans and a group of immigrant youth receiving their agricultural training with us.

" We started off with 20 Arab cows ... ... Their average yield of milk was 700-800 litres a year. Today we have a total of 477 cows and calves, with an average annual yield per cow of 4000 litres.

" In our first year at Nahalal we planted 817 fruit trees. By 1938 the total number of fruit trees was 27,133 and the yield had risen accordingly.

" As we have said, we started off with nothing. By 1929, we had reached a stage of solvency. In that year our total assets were L.P. 66,000 and our total debts and liabilities (including our debt to the Jewish Foundation Fund) L.P. 64,000-leaving us a credit balance of L.P. 2,000. The rapid development of the following period is reflected in the fact that by 1941 our assets had increased to L.P. 138,000 and our liabilities to L.P. 85,000, leaving a credit balance of L.P. 52,000 "

The progress of organisation of these settlements may be seen from the following figures :—

YEAR.	NO. OF SETTLEMENTS.	POPULATION.
1922 ...	11 ...	1,410
1927 ...	24 ...	4,660
1931 ...	30 ...	5,750
1936 ...	71 ...	15,740
1941 ...	94 ..	24,820
1944 ...	99 ...	29,500

The greatest progress was during the ten years ending 1941.

V. SMALLHOLDERS' COLLECTIVE AND COOPERATIVE SETTLEMENT (*i.e.* COLLECTIVE WORK AND INDIVIDUAL LIVING) (MESHEK SHITUFI.)

These are the four out of 99 smallholders' cooperative settlements where there is a combination of collective settlement and smallholders' cooperative settlement and where members perform all their economic and social activities collectively, but

eat and live independently. The procedure and organisation for collective work and common services for the settlement as a whole are the same as these found in the collective settlement. Every family gets an allowance for its maintenance from the common settlement purse. It is a new development not more than 10 years' old and claims to combine the advantages of collective settlement and smallholders' cooperative settlement. It resembles very closely the organisation and working of the Russian KOLKHOZ. They are all registered as cooperative societies. Jewish opinion in Palestine is gaining in favour of this new type of settlement in that it enables a member to enjoy the privacy and pleasures of family life with advantages of collective farming. The following is the brief description of the working of the four settlements, all of which were visited by the Delegation

(i) KFAR HITTIM.

This is the oldest of this type of settlement established in 1936. It is a purely agricultural settlement with no subsidiary industries or occupations. The number of members (men and women) is 90 and the total population is 250. The total area is 3,500 DUNAMS out of which about 2,800 DUNAMS are under cultivation. All living quarters are of the same size and design and each family gets a separate house with one-third of a DUNAM of land for garden. Most of the members are married. Single members may live and eat alone or jointly with other single members.

An elaborate monthly scale of allowances at the following rates is fixed for the maintenance of members and their dependents and there is no distinction between members with large number of dependents and those having no families or small families.

PER MARRIED MEMBER :—

LP. 4.600 food; LP. 1.500 clothing and footwear; LP. 0.500 cash for miscellaneous expenses; LP. 0.500 for mutual aid fund credited to member's account in the cooperative society; and LP. 0.250 for travelling with permission of the appropriate committee of the settlement.

PER UNMARRIED GIRL OR BOY :—

LP 4.500 food; LP. 1.500 clothing and footwear; and LP. 2.500 cash for miscellaneous expenses and travelling

CHILDREN UP TO 10 YEARS :—

LP. 2.600 food and LP. 1.000 clothing and footwear.

CHILDREN BETWEEN 10 AND 17 :—

LP. 4 000 food; LP. 1.000 clothing and footwear; and LP. 1.750 cash for miscellaneous expenses and travelling. Old parents get LP. 3 500 for food, clothing and footwear. If any parent works on the settlement an extra allowance of LP. 0.750 is permissible.

A member must put in a minimum number of working days before he or she can claim allowance for dependents. Days of sickness count as half working days.

The allowance for food, clothing and footwear is given in the form of coupons which can be exchanged for goods only at the cooperative store of the settlement. Any balance left over from the allowance for clothing and footwear can be obtained in cash. Balance from food allowance is credited to the savings account of the member.

Administration of the settlement, arrangement for work, etc. are similar to those followed in collective settlements

(ii) SHAVEI ZION.

This settlement was organised in 1938 by 22 families immigrated into Palestine from a village in southern Germany. The families formed themselves into a group

in 1937 with the object of migrating to Palestine and sent up during that year a small committee from amongst themselves to undertake preliminary investigation in Palestine. This committee got in touch with the Jewish Agency and after all the arrangements were completed, the 22 families shifted themselves to Palestine early in 1938. There was a ban on carrying money outside Germany and the families, therefore, could bring to Palestine their wealth in the form of goods worth about LP. 30.000. The land allotted to the settlement was uncultivaaed and considerable expenditure of labour and money was required in the initial stages. There are at present 40 families and the total population is a little over 200. The settlement is situated in the north of Palestine almost on the border of Lebanon and a considerable portion of land consists of sand on the sea coast. All the individual houses and the common buildings of the settlement are built on the sandy portion of the estate and the remaining land is cultivated jointly. The total area of the settlement is 660 DUNAMS of irrigated by two wells from which water is pumped to the water tower from where fields are irrigated through pipe lines and over-head irrigation. An additional area of 1,100 DUNAMS has been secured, from the J.N.F. on a temporary basis. This is unirrigated.

Work is allocated according to capacity and suitability of individual members. For example, young women without children work about 6½ hours on the farm; women with young children work only for 3 hours a day; all women work only for 5 days a week. It is not compulsory to work if a person is over 60. Children bewteen 14 and 16 work on the farm for 4 days and for 2 days they attend the school. After 16 years of age, every boy or girl has a right to go out for higher or specialised education up to 18 years and for this purpose the settlement bears the expenditure. University education, however, is not included in this training. Children below 14 attend school and work in the school farm.

Every family has a separate house which belongs to the settlement. All houses are of the same type. Half a DUNAM of land is set apart for each house for maintaining a garden.

Every family gets a cash allowance for maintenance at the following rates; every adult (15 years and above) 18½ PIASTRES per day, Children below 15 get at 13 PIASTRES per day. In addition, every member gets pocket money at the rate of 5 PIASTRES per working day of 8 to 10 hours. This allowance is given even for such of the days on which there may not be any work on the farm. On the other hand, if the member does not do any work in spite of there being work on the farm, he does not get the allowance. There is a further extra allowance of LP. 6 per year per working person. Children get this allowance at the rate of LP. 3 per year. The daily allowance of 18½ PIASTRES is given in the form of coupons which can be cashed only at the cooperative store, but the extra allowances of LP. 6 per working member and 5 PIASTRES per day of work are given in cash which the members can spend anywhere.

The settlement is within an easy distance and reach from the important town Haifa and since it is situated on the sea coast, a fairly large number of visitors visit the settlement for a holiday. Each member is allowed to take visitors in accordaoce with his or her capacity. The members are allowed to retain three-fourths of the money collected from the visitors and the balance one-fourth goes to the settlement. This balance of one-fourth is distributed amongst other members who may not be in a position to take any guests. The guests take their food in a common dining hall which is specially organised by the settlement for that purpose and also for the use of the members who are single and who prefer to take their food in the common mess in the settlement. Education of children, sanitation and health, cultural activities, etc. are common for the settlement as a whole and the arrangements made are similar to those followed in collective settlements.

The net profits of the whole settlement at the end of the year are distributed amongst the members in cash, each family getting the same share,

In case a member leaves, he gets back his real investment in equal instalments in 10 years but without any interest.

Since each member invested his own money in the initial stages of the settlement no new member is admitted unless he pays to the settlement a sum of LP. 1000. In actual practice, he pays much more because of the value of the house, garden, furniture, etc.

It is reckoned that on an average an adult worker puts in 300 days of work in a year. About 60 per cent of the work done is in connection with the settlement farm. About 12 per cent. is accounted for by the dairy, grain stores, etc., while 11 per cent. is devoted to work on the administration of the settlement. Work in cooperative stores, common kitchen, bakery and jobs done off the farm account for the balance of 17 per cent. of the total working days of all the members.

The settlement has its own carpenter and smith who are members. There is one male teacher and one female teacher in the school. They are both members but were not required to pay any entrance contribution.

(iii) MOLEDETH.

It was originally organised as a collective settlement in 1937 by a group of young men and women from Germany. This settlement is located in a hilly and rocky area which consists of 8,000 DUNAMS—all unirrigated. Only 55 DUNAMS are under fruits, mainly grapes, apples and pears, all taken without irrigation. 25 DUNAMS are planted with olive tree. The number of families settled is 60 and the total population is 200. The settlement was partially destroyed by fire in 1939 and it is being built up. The members are still staying in wooden huts. They started individual kitchens only in 1944.

The family budget allowance is given at the following scale :

Food ... 18 PIASTRES per day per member.

Clothing, footwear, etc. ... LP. 1.5 per month per member.

Children up to 1 year get 40% of the adult allowance.

Children from 1 to 3 years get 50% of the adult allowance.

Children 3 years and onwards ... 65% of the adult allowance. Health, education, recreation and other common arrangements are made for the settlement as a whole.

After child-birth, women need not work for three months.

The family allowances are given in the form of coupons which can be exchanged only at the cooperative stores in terms of goods required for the household. Each family, however, can change coupons in cash up to LP. 2 per month. Prices charged for products produced on the farm are based on the cost of production but each family can buy from the cooperative store only up to certain maxima prescribed for each of the farm produced article. If any member requires more than the prescribed maximum, then the prevailing market price is charged for the extra supplies.

Till two years ago when there was common kitchen, the cost on food came to 21 PIASTRES per member per day. When individual kitchen was started, the

allowance fixed on food was 19.7 PIASTRES per day per adult. After 6 month it was found that this allowance was on the high side and, therefore, it was cut down to 18 PIASTRES per day.

Women members work on the farm according to age and number of children. Those having no children work 5 hours a day. A woman with one child of kindergarten age works for 4 hours a day. If she has 2 children of the kindergarten age, she works only for 3 hours a day. On the other hand, if she has small children who do not attend nursery school, she can work only for 2 hours a day. Nursing mothers are left free without any farm work up to the age of 6 months of the child.

There is a provision in the constitution that net profits could be equally divided amongst the families, but so far there has been no such occasions. The member's houses in the settlement are still being laid out and there is a provision of allocating 2 DUNAMS of land for each household for growing flowers, vegetables and fruits for the use of husehold.

(iv) NIRA.

This settlement combines agriculture with industry. It was established in 1940. There are thus 2 cooperatives - one agricultural and the other industrial. The industrial cooperative has set up a factory for knitted woollen and cotton clothes. The workers are from Czechoslovakia and a few of them had their own factories in Czechoslovakia before they came over to Palestine. The factory is now well established and its goods are in demand all over Palesrine.

The total area of the settlement is 300 DUNAMS. Every individual house of the members has about 4 DUNAMS of land where a cottage is built and fruits, vegetables, poultry and dairy products are raised by each individual family. The income from these sourcese comes to LP. 8 to LP. 10 per month per family. There are 20 familes in the settlement with a total population of 60. The remaining land of the settlement is worked collectively by all the members. The settlement has dicided to admit 10 more familes.

When the settlement was organised in 1940, each family contributed LP.750 on an average.

Tewelve members work in the weaving and knitting factory and the remaining on the collective farm.

Interchange of work between the factory and the farm is permissible. Each settler gets the same daily allowance and there is an appropriate scale fixed for children. The profits are divided at the end of the year equally amogst all the members and these now average about LP. 100 per family per year. Besides, each family gets about LP.30 per month as maintenance allowance.

CHAPTER 4.

FINANCIAL ASPECTS OF THE WORKING OF THE COOPERATIVE FARMS.

The description of the organisation and working of the different types of cooperative farms is undoubtedly Utopian, excepting in so far as the financial aspects are concerned, which are now to be considered. It has been claimed that almost all cooperative farms in Palestine are now paying concerns. It has not been possible to get financial statements of the working of any one single cooperative farm from its very commencement to date to prove the extent of profitability from the date of establishment of the farm. At the same time, it must be admitted that an examination of the latest financial balance-sheets of a very large number of

cooperative farms has disclosed net profits at the end of the year. These net profits, however, have accrued owing to the initial large investments of the various Jewish organisations in the form of purchase of land, loans, subsidies and various expert and social services provided by the Jewish organisations. Large sums of money had been spent in assisting the Jews for immigrating into Palestine and for maintaining them for some time till they found work in the country. It was impossible to get even a rough or approximate idea about the amount of money so spent, but it must have been enormous. It must be therefore pointed out that the development of cooperative farms was subsidized to that extent.

Major portion of the land on which cooperative farms have been organised belongs to the Jewish National Fund. Till the end of 1945, the J.N.F. spent about LP. 10 millions for purchasing lands, and in addition, a sum of LP. 2 millions was spent for 'amelioration' of the land or for making the land fit for occupation. It gives out the land to the Jews for collective or cooperative farming and for urban settlements on lease for 49 years. The rate of rent is prescribed in the lease document. But, by the end of 1945, the total rent received came to only LP. 260,018. The Jewish Foundation Fund advances loans to the different types of cooperative settlements. The rate of interest on these loans is prescribed. There has been, however, considerable remission not only of interest but also on the loans advanced. The reduction in debt alone amounted to nearly LP. 500,000. In addition, the apex body of the Jews, the Jewish Agency, has spent millions of pounds on its various departments dealing with immigration, agricultural settlement, educational, religious and political activities and the economic uplift of the Jewish society as a whole. The budget of the Agency for 1944-45 was LP. 4 millions. These few considerations, therefore, give a very rough idea about the extent to which the Jewish collective and cooperative farms in Palestine have been subsidized.

At the same time it must be admitted that when they first came into Palestine most, if not all, of the Jews knew nothing about agriculture. The conditions about settling on land in Palestine were not favourable, not only from the point of view of soil and rainfall but also from the point of view of economic and political relationship with the local Arab population of Palestine. A new path of life and of farming methods had to be found out and established. The pioneering efforts were, therefore, very hard and required the investment of large sums of money. Considered from this point of view the subsidization of collective and cooperative farms in Palestine by the various Jewish organisations was justified and the present success of cooperation in farming in that country was very largely due to this assistance.

All cooperative farms now maintain detailed accounts. On the smallholders' cooperative farms, however, such accounts are maintained only for that part of farming and other common activities in which the settlement as a whole takes a direct part. The foundations of proper accounting and maintenance of adequate financial returns of settlements are laid down by the Planning Bureau of the Department of Agricultural Settlement at the time of organising the settlement. The development of the present elaborate system of cost accounting is, however, almost entirely due to the Audit Union of the General Federation of the Jewish Labour in Palestine. This Audit Union audits and prepares at the end of every year balance-sheets of financial and other matters of the different types of cooperative settlements most of which are members of the Audit Union. All accounts and forms are compulsorily maintained in Hebrew.

I:— COLLECTIVE SETTLEMENT (KIBUTZ).

The following statement secured with some difficulty through the good offices of the Cooperative Department of the Palestine Government shows details about the human and livestock population, utilisation of land, assets and liabilities and income and expenditure of 3 collective settlements in Palestine.

STATEMENT SHOWING THE AREA, POPULATION AND FINANCIAL ACCOUNTS OF THREE COLLECTIVE SETTLEMENTS.

	DAFNA (established in 1939).			GIVAT HAYIM (established in 1932)			HULDA (established in 1934)		
YEAR	1939	1942	1945	1935	1942	1945	1935	1942	1945
INHABITANTS:									
No. of workers	275	244	242	203	349	348	85	130	132
Total inhabitants	307	323	455	234	511	654	102	186	266
DISTRIBUTION OF LAND (in dunams).									
Irrigated land	145	1,201	1,312	430	1,738	1,900	1,623	5,180	3,664
Partially irrigated land	11	321	249	22	435	440	—	80	31
Vegetables: & Potatoes	3	170	150	27	200	130	10	20	20
Orange Groves	—	—	—	118	118	108	—	53	53
Banana Groves	—	—	—	—	18	28	—	—	—
Other Groves	—	80	134	20	90	790	715	64	564
Woods & Nursery	—	8	60	36	15	35	240	—	300
Fish Ponds	—	50	264	—	—	—	—	—	—
Roads & Buildings	14	240	255	82	130	157	62	182	182
Total:	173	2,070	2,424	735	2,744	2,888	2,650	5,579	4,814
LIVESTOCK:									
Cattle	13	61	99	22	112	153	7	72	98
of which cows	6	29	43	5	56	70	6	45	45
Sheep	—	258	295	—	277	215	203	235	220
Poultry	655	862	632	—	2,575	2,150	—	905	901
Draught animals	7	18	12	16	8	16	9	10	8
LIABILITIES (L.P.)									
Colonizing Funds (long term loans).	150	9,888	19,697	2,500	16,025	47,553	—	18,771	30,463
Loans repayable 10-20 years.	901	1,109	5,708	4,651	8,902	2,671	1,119	4,638	11,076
Loans repayable within 10 years.	1,989	13,190	70,016	3,147	39,874	80,298	738	11,272	28,088
Sundry Creditors	2,214	6,637	4,539	7,565	14,484	12,662	3,656	3,070	3,866
Own or Reserve Fund	1,151	7,727	9,014	2,048	9,150	9,583	710	5,565	6,880
Total:	6,405	38,551	108,974	19,911	88,435	152,767	6,223	43,316	80,373

YEAR		DAFNA			GIVATHAYIM			HULDA		
		1939	1942	1945	1935	1942	1945	1935	1942	1945
ASSETS (L. P.)										
Immovable Property	...	1,899	15,090	62,671	10,410	40,657	69,599	1,360	23,318	42,211
Movable Property	...	2,079	6,926	17,148	3,602	13,818	22,864	2,681	6,635	15,483
Advance Expenditure	...	1,163	11,856	24,420	3,169	28,865	43,186	1,645	11,347	20,446
Debtors and Cash	...	1,264	4,679	4,735	2,730	5,095	17,118	537	2,016	2,233
Total	...	6,405	38,551	108,974	19,911	88,435	152,767	6,223	43,316	80,373
INCOME AND EXPENDITURE (L. P.)										
INCOME										
Cereals and Fodder	...	212	6,544	9,526	437	11,235	18,473	1,044	9,505	16,506
Vegetables and Potatoes	...	71	6,613	12,583	423	7,497	10,930	21	559	327
Fruits and Nursery	...	...	1,461	6,010	358	3,415	7,707	1,321	6,947	12,138
Produce from Livestock	...	811	5,835	29,898	367	17,205	28,211	454	8,564	19,135
Income from factories, workshops, fish ponds and outside work.	...	7,948	15,316	21,956	6,939	50,056	160,832	3,558	4,056	3,719
Other income from farm.	...	284	2,809	12,648	1,680	3,432	6,700	90	935	3,973
Total	...	9,326	38,577	92,621	10,204	92,840	232,853	6,488	30,566	55,798
EXPENDITURE (L. P.)										
On workers and dependents	...	5,713	14,479	37,650	6,304	23,532	75,169	3,628	9,251	23,320
On machines	...	684	4,763	10,453	423	7,670	8,011	676	3,567	3,156
Food for livestock	...	384	3,173	12,966	296	8,907	19,339	96	3,863	11,130
Dung and seeds	...	53	2,500	6,118	358	2,882	5,297	203	1,373	2,725
Various items*	...	230	2,741	8,662	667	4,234	9,737	486	2,827	7,470
Material for factories	...	636	1,515	6,110	219	29,759	96,682	...	410	134
Depreciations	...	357	3,179	4,307	285	6,454	7,541	643	1,808	2,436
General Expenditure and interest	...	416	1,866	6,306	1,164	5,603	11,136	348	2,045	4,944
Total	...	8,473	34,216	92,572	9,716	89,041	232,912	6,080	25,154	55,315
Profit (+) or Loss (−)		+ 853	+4,361	+ 49	+ 488	+3,799	−59	+ 408	+5,412	+ 483

*Includes : insurance, veterinary service, Government taxes, rent, breeding expenses, refrigeration expenses, light. etc.

It will be observed that excepting in 1945 when Givat Hayim showed a net loss of LP. 59, the three collective settlements showed a net profit for the 3 years for which their accounts are given in the statement, after meeting all the expenses on the farm and on the maitenance of the members and their depenpents. The net loss shown by Givat Hayim in 1945 is due to the laige investments made by the settlement in that year on industrial and factory plants. This settlement has organised an industry for fruit and vegetable canning and for manufacturing concrete slabs and barrels. By far the largest part of the income of this settlement is derived from non-agricultural occupations organised on the settlement itself. The collective settlement at Hulda has a factory for olive pickling and pressing, while Dafna has organised fish ponds. With the rise in income, the expenditure per head of the total population of the 3 settlements has also increased. The per capita expenditure at Dafna in 1939 was LP. 18.6 which rose to LP. 44.8 in 1942 and LP. 82. 7 in 1945. The per capita expenditure at Givat Hayim in 1935 was LP. 27 which increased to Lp. 46. 1 in 1942 with a further very sharp rise to LP. 114. 9 in 1945. Similar has been the case at Hulda where the per capita maintenance cost rose from LP. 35. 6 in 1935 to 49. 8 in 1942 and 87. 7 in 1945.

Dr. Ludwig Loewe of the Anglo-Palestine Bank Ltd., who recently studied the profitability of collective settlements, as a collaborator of Dr. L. Oppenheimer, has given the following information, which is not yet published.

"Taking into account all balance sheets of 23 old collective settlements for the five years 1935 to 1940, (a period in which rather slight booms and depressions weighted out one another, so that a fair average typical for normal periods resulted) we arrive at the following annual averages :—

	LP.	LP.
(a) Total value of produce in all agricultural branches ...	361,000	
(b) Total costs of production (labour, general expenses in cash, but interest on borrowed capital excluded) ...	229,000	
(c) Total farm income ...		132,000
(d) Total value of produce in non-agricultural branches ...	154,000	
(e) Total costs of production (labour, cash expenses but not interest on borrowed capital ...	56,000	
(f) Total income from non-agricultural branches		98,000
(g) Total income from all branches ...		230,000
(h) Total general expenses in cash ...		13,000
(i) Total net income ...		217,000
(j) Maintenance costs of the settlers (interest on capital included) ...		180,000
(k) Total net profit ...		37,000

The annual average number of members (men and women) in these settlements was 4,250, with 1,770 children and 370 elderly persons, thus totalling 6,390 souls.

The direct productive work accounted for 54 per cent. of the total number of members or 2,300 out of 4,250 members. The remaining members worked on the non-productive side of the settlements, *e.g.*, kitchen, dining hall, children houses, education, laundry, settlement administration, etc. They also included sickness, holidays, etc.

The income per head of total population came to LP. 20.6 from agriculture (cf. 'c' above) and LP. 15.3 from non-agricultural branches (cf. 'f' above). The cost of maintenance per head of total population came to LP. 28.2."

In his book "Jewish Labour Economy in Palestine" (1945) Dr Gerhard Muenzner has compiled for all collective settlements existing during 1937-1942 a statement showing the principal items of income and expenditure of the settlements. The following table shows the different items of expenditure and income for all the collective settlements existing in 1942.

INCOME.	1942 LP.	PER CENT.
Cereals	444,349	10 83
Fodder	163,297	3.98
Vegetables	416,539	10.16
Plantations	173,476	4.23
Bananas	87,618	2.13
Nurseries	22,813	0.55
Dairies	487,851	11.89
Sheep and goats	66,814	1.63
Poultry	255,214	6.22
Apiculture, fish ponds, etc.	73,807	1.80
Total farm income	2,191,778	53.42
	1942 LP.	PER CENT.
Workshops, factories, etc.	1,351,589	32.94
Outside work	420,811	10.25
Total labour income	3,964,178	43 19
Investments	139,327	3.39
Total income	4,103,505	100.00
EXPENDITURE.		
Human labour including maintenance	1,238,576	32.58
Machinery, draft animals	295,193	7.76
Irrigation	51,198	1.35
Manure and seeds	173,353	4.56
Fodder	439,959	11.57
Packing, transport	140,564	3.70
Various agricultural branches.	162,839	4.28
Various workshops, industries, etc.	738,581	19.42
General expenses	92,308	2.43
Amortisation	330,155	8.68
Interest	139,360	3.67
Total	3,802,086	100.00

The items of income and expenditure clearly show the importance of mixed farming. It also emphasises that slightly less than a third of the income was derived from industries and other non-agricultural occupations organised in the settlements. The item on outside work includes hire of farm machinery to other settlements, wages of members working in other settlements and other Jewish organisations and also wages of members working on construction and repairs of buildings, roads, etc. on the settlement itself. On the agricultural side, dairying is the most important source of income followed by cereals, vegetables and poultry in that order. The maintenance of the settlement population is the most important item of expenditure accounting for slightly less than a third of the total expenditure of the settlement.

The disposal of the surplus profit at the end of the year is entirely in the hands of the general council of the settlement. The normal practice is to allocate certain percentage to the reserve fund and utilise the balance for raising the standard of living by increasing the quantity and quality of food, raising the allowance on clothing and footwear, making more generous provision for education or cultural activities or in building more houses. A large number of settlements, however, decide to maintain the same standard of living and absorb more members with the object of taking into the settlement as large a Jewish population as possible.

INVESTMENT AND DEBTS.

Dr. Muenzner gives the following figures of investments on various items made by all the collective settlements existing in 1942.

INVESTMENTS BY COLLECTIVE SETTLEMENTS IN 1942.

	LP.	PER CENT.
INITIAL INVESTMENTS.		
Dwellings, assembly halls	745,132	17.2
Building for farm and industrial purposes	343,581	7.9
Installation, Road-building, Fencing.	69,965	1.6
Irrigation	371,645	8.6
Plantation	283,795	6.6
Banana plantation ...	34,805	0.8
Various plantations ...	29,224	0.7
Preparation of soil ...	73,912	1.7
Contributions to TNUVAH and other institutions	143,179	3.3
Draft animals	28,360	0.7
Milk-yielding cattle ...	275,200	6.4
Sheep and goats	39,505	0.9
Poultry	35,362	0.8
Rabbits	3,278	0.1
Bees	5,848	0.1
Fishes	4,993	0.1
Dead stock production ...	312,493	7.2
Consumption	114,807	2.7
Total, initial investments ...	2,915,084	67.4

CURRENT INVESTMENTS.

Goods in stores and sheds ...	892,455	20.6
Tree nurseries	17,383	0.4
Preparation of soil and advance payments	166,875	3.9
Various debtors	281,428	6.5
Cash and banks	51,285	1.2
Total, current investments ...	1,409,426	32.6
Total investments. ...	4,324,510	100.0

It may be noted that these figures do not include the cost of land which belongs to the J.N.F. If the land value is taken into account, it is estimated that about 40 per cent. of the total capital required for establishing a farm in Palestine (including cost of land) would be accounted for by the cost of land. It it reckoned that the cost of establishing a collective settlement works out to LP. 700 to LP. 800 per family (one man and one woman), excluding the cost of land. This includes, living quarters, common buildings and other constructions, livestock, implements and machinery, poultry, water installations for drinking and irrigation, produce and fodder stores, ploughing and planting, shade trees, working capital and contingencies.

The following figures compiled by Dr. Muenzner show the total debts, cash funds and investments of the collective settlements.

TOTAL DEBTS, CASH FUNDS AND INVESTMENTS OF ALL COLLECTIVE SETTLEMENTS.

YEAR.	TOTAL DEBTS. LP.	OWN CASH FUNDS. LP.	TOTAL INVESTMENTS INCLUDING ALL MOVABLE & IMMOVABLE PROPERTY. LP.
1937	1,611,561	167,925	Not known
1938	1,849,893	162,102	Not known
1939	2,192,839	201,509	2,394,348
1940	2,544,401	290,040	2,834,441
1941	2,850,505	500,833	3,351,338
1942	3,530,940	793,570	4,324,510

SOURCE OF LOANS IN 1942.

	LP.
Various Jewish organisations for giving loans to settlements including banks and water companies.	2,024,467
Sundry creditors and bills payable	865,177
Anglo-Palestine Bank, Central Bank of Co-operative Institutions, Barclay's Bank, and other sundry banks	535,991
Palestine Government	105,305
Total ...	3,530,940

The borrowings are, therefore, large. In consequence, interest charges are heavy. It was reckoned in 1936 and 1937 that the interest paid by collective settlements varied between 9 and 23.6 per cent. of the total cost of maintenance of the settlers. These heavy borrowings were, however, made with the sole object of absorbing within the settlements as large a number of Jewish immigrants as possible by increasing the output from farming by adopting more intensive methods of agriculture and by organising or developing subsidiary industries and occupations on the settlement lands. Funds were not difficult because of the large inflow of refugee capital into Palestine.

II. — SMALLHOLDERS' COOPERATIVE SETTLEMENT. (MOSHAV OVDIM)

In this type of settlement, the major part of the farming activity is done by the individual farmer member and his family. He cultivates his own allotment with the help of his family members, raises his own livestock and poultry, but has to compulsorily sell all his surplus produce to and buy his requirements through the cooperative organised for the settlement as a whole The common expenses for the whole settlement on municipal, educational, social and other affairs are, however, shared amongst the members of the settlement. Since each member farmer manages his own affairs independently it was not possible to get from any of the smallholders' cooperative settlements as detailed financial statements as could be obtained for the collective settlements. Sales through and purchases from the settlement cooperative, as also the joint expenses incurred for the settlement as a whole, however, give some indication about the financial well being of these smallholders' cooperative settlements. A statement containing this type of information, secured from the Cooperative Department of the Palestine Government, is given on the next page.

STATEMENT SHOWING THE AREA, POPULATION AND TOTAL SALES AND PURCHASES BY MEMBERS OF TWO SMALLHOLDERS' CO-OPERATIVE SETTLEMENTS.

	KFAR VITKIN (established in 1933				BEER TUVIA (established in 1930)			
YEAR	1935	1939	1942	1945	1935	1939	1942	1945
No. of farms	140	156	156	156	44	84	92	92
Area (DUNAMS)	3,600	3,800	4,300	4,300	5,400	5,400	4,700	4,700
Of which irrigated (DUNAMS)	900	1,200	2,400	2,400	2,400	2,000	1,000	1,000
Cereals ,,	1,000	1,000	900	900	1,700	2,000	2,500	2,500
Plantations ,,	600	700	1,000	1,000	750	800	600	600
Fodder ,,	100	400	1,000	1,300	400	600	1,200	1,200
Vegetables ,,	100	150	—	500	700	700	700	700
Cattle — No. of heads	140	166	434	660	460	385	582	601
Of which milch cows	100	124	243	331	300	277	305	325
Poultry	3,000	22,000	21,000	30,000	10,000	12,000	12,000	12,000
Total Nos. of Inhabitants.	534	772	850	950	511	649	686	698
No. of working members	294	356	400	505	275	300	338	397
Own funds (L. P.)	8,300	13,400	20,500	38,000	8,800	10,200	15,400	25,400
Borrowed funds (L. P.)	22,100	44,900	48,100	34,900	3,400	8,100	10,500	7,300
Produce sold (Quantities).								
Milk — 1,000 litres	125.0	386.4	833.4	1131.0	524.0	1066.0	1248.0	1319.4
Eggs — in 1,000	—	2,270	2,804	2,454	277	1,122	900	1,401
Paid to members for sale of their produce through co-operative								
Milk LP.	2,000	4,000	21,200	58,000	7,600	11,300	30,700	65,800
Eggs LP.	)	8,100	22,000	57,000	) 1,200	) 6,300	8,600	33,800
Poultry LP.	) 1,200	3,500	9,000	25,000	)	)	3,700	13,700
Vegetables, etc. LP.	)	1,000	13,900	31,500	1,100	2,400	14,000	29,600
Total LP.	3,200	16,600	66,100	171,500	9,900	20,000	57,000	142,900

	KFAR VITKIN (established in 1933)				BEER TUVIA (established in 1930)			
YEAR	1935	1939	1942	1945	1935	1939	1942	1945
Sales to members from co-operative stores.								
supply L.P.	)	12,600	33,200	82,400)				
Building Material L.P.	) 12,000	5,400	5,900	12,100)	6,000	12,500	29,300	64,200
Grocery L.P.	)	6,700	15,600	34,500	3,500	7,000	14,500	30,500
Total L.P.	12,000	24,700	54,700	129,000	9,500	19,500	43,800	94,700
Municipal, Educational and social expenses. L.P.	4,000	5,000	6,900	21,200	1,800	3,000	5,100	14,900

KFAR VITKIN was established in 1933 and is the largest settlement of its type with a population of 950. Investments in public or common buildings and water and irrigation installations exceed LP. 40,000. Own capital of members consisting of various funds, including reserve, amounted to LP. 38,000, while total debts were less than LP. 35,000. There are two cooperative societies — one dealing with municipal and social problems, while the other is organised to deal with farming problems, marketing, water irrigation, incubator, refrigeration, transport, etc. Dairying and poultry raising are the main commercial parts of farming and have been developed very largely during the past 4 years.

BEER TUVIA is an old settlement but it had to be re-established in 1930 as it was destroyed during the previous disturbances. It has 601 inhabitants. Here also dairy farming and poultry are the principal commercial activities. In 1945 the members sold 1.3 million litres of milk and 1.4 million eggs through the cooperative. There are two cooperative societies in the settlement - one dealing with municipal and social matters has an investment of over LP. 10,000. The other concerns iftself with all economic matters of laying out farming plans for the settlement as a whole, sales and purchases, loans to and deposits from members, water and irrigation arrangements, transport, refrigeration, etc. The society's turnover in milk and poultry products alone amounted to nearly LP. 100,000.

The following statement for the two settlements indicates the average per farm progress during the 10 years, 1935 to 1945 :

SMALLHOLDERS' COOPERATIVE SETTLEMENTS OF KFAR VITKIN AND BEER TUVIA.

(Average size of farm business and average financial position per farmer).

Average per farm.	Kfar Vitkin		Beer Tuvia.	
	1935	1945	1935	1945
Size of the farm (dunams).	25.7	27.5	122.7	51.1
P.C. area irrigated	25.0	55.8	44.4	21.3
No. of persons ...	3.8	6.1	11.6	7.6
No. of workers ...	2.1	3.2	6.5	4.3
No. of cattle ...	1.0	4.2	10.5	6.5
No. of milch cows ...	0.7	2.1	6.8	3.5
No. of poultry ...	21.4	192.3	22.7	130.4
Own capital, LP. ...	59.3	243.6	200.0	276.1
Borrowed capital, LP.	157.9	223.7	77.3	79.3
Receipts for produce sold through cooperatives, LP.	22.9	1,099.4	225.0	1,533.2
Purchases made from cooperative, LP.	85.7	827.6	215.9	1,029.3
Share of common expenses on municipal, educational, social and other affairs, LP. ..	28.6	136.0	40.9	162.0
Excess (+) or Deficit (—) of sales over purchases and common expenses.	—91.4	+135.8	—31 8	+341.9

The figures in the statement bring out clearly a number of interesting and useful points. In the case of KFAR VITKIN, there was a slight increase in the average size of the farm as also a sharp rise in the percentage area irrigated. On the other hand, BEER TUVIA recorded a big fall in the average size of the farm and also in the proportion of area irrigated. This was due to the fact that this settlement had in the initial stages got an area much larger than what the members could

manage with their own labour. The surplus area was, therefore, taken away to organise another settlement. On the other hand, if area per worker and per head of population is calculated and comparison made between 1935 and 1945, both the settlements recorded a declinc. At KFAR VITKIN the area per worker was 12.1 DUNAMS in 1935 as against only 8.6 DUNAMS in 1945. The area per head of population decreased from 6.8 DUNAMS in 1935 to 4.5 DUNAMS in 1945. Similar has been the case with BEER TUVIA where the area per worker deelined from 18.9 DUNAMS in 1935 to 11.9 DUNAMS in 1945. The area per head of population in 1945 was 6.7 DUNAMS as against 10 6 DUNAMS in 1935. The average number of cattle, including milch cows, per farm increased in KFAR VITKIN but there was a decrease in BEER TUVIA because of the fact that in 1935 the number of cattle possessed per member in this settlement was rather large, beyond the management capacity of the individual member and his family. The sharp increase in the amount of cash capital owned and number of poultry possessed per farm is remarkable. Similar sharp increase can be noted in the value of surplus produce sold and purchases made. Considering that the largest part of the food required for the farm family is produced on the farm itself, the average surplus left per farm in 1945 for both the settlements is considered quite satisfactory to meet the cash requirements and other obligations of the farmer members

III:— SMALLHOLDERS' COLLECTIVE AND COOPERATIVE SETTLEMENT (*i. e.* COLLECTIVE WORK AND INDIVIDUAL LIVING). (MESHEK SHITUFI)

There are only four of this new type of settlements. The oldest one is KFAR HITTIM organised in 1936.

(i) KFAR HITTIM.

This settlement depends entirely on agriculture. The balance sheet for the year ending September 30, 1945 shows that out of the total area of 3,500 DUNAMS, the area under cultivation was 2,798 DUNAMS (2,417 DUNAMS under unirrigated crops and 381 DUNAMS under irrigated crops). The remaining area consisted of fallow land (372 DUNAMS), cultivable waste (100 DUNAMS) and space occupied by buildings, roads, flower gardens, etc.

There were 95 members, men and women. The cultivated area per member, therefore, comes to 25.5 DUNAMS unirrigated and 4 DUNAMS irrigated.

The area under principal crops was as under :

UNIRRIGATED

Cereals	1,699	DUNAMS
Hay and fodder	467	,,
Green Manuring	211	,,
Water Melons	40	,,
Total ...	2,417	

IRRIGATED

Potatoes and vegetables	78	,,
Fruits (apples, grapes, plums, pears, quince, etc.) ...	65	,,
Green fodder and miscellaneous vegetables	238	,,
Total ...	381	,,

Details on assets and liabilities, receipts and expenditure and expenses on upkeep of members and the settlement as extracted from the balance-sheet for the year ending 30th September, 1945 are given below :

ASSETS	LP.
Investments (buildings, roads, irrigation system, plantations etc.)	72,496
Dues from members	1,385
Stock in hand	9,749
Preparation of land for next year and interest on loans paid in advance but to be charged to next year	9,856
Miscellaneous	1,858
Cash in hand	106
Total	95,477

LIABILITIES	LP.
Members' private capital	4,631
Long-term loans	31,893
Other loans (long and medium period loans)	39,628
Short-term loans	8,528
Savings account of members	1,427
Miscellaneous	9,063
Profit	307
Total	95,477

RECEIPTS AND EXPESES.	LP.
RECEIPTS.	
Grains	4,585
Hay	2,746
Straw	651
Fruits, Vegetables and Potatoes	3,753
Milk and Milk products	5,792
Eggs	5,092
Poultry, calves and slaughter stock	3,832
Manuring for next year	522
Wool	48
Outside labour including hire of machinery	2,889
Difference in price between market rates and concession rates charged to members for farm supplies made available for household use	15,031
Appreciation of stock	510
Total	45,451

EXPENSES	LP.
Preparation of land during the previous year	912
Wages to outside labour	556
Working animals	632
Unkeep of machinery	1,190
Seeds	1,474
Fertilisers, insecticides and disinfectants	805
Value of farm produce fed to cattle and poultry	9,064
Purchase of supplies	11,939
Fuel	309
Implements, parts and repairs	55

Paid to members at part of budget	328
Artificial insemination	3
Insurance	216
Chicks (one day old)	1,160
Road construction and repairs and haulage	449
Commission to HAMASHBIR and TNUVAH Marketing Societies	631
Electricity and water	443
Depreciation	430
Miscellaneous	807
Gross profit	14,048
Total	45,451

UPKEEP OF MEMBERS AND SETTLEMENT.	LP.
Family Budgets	10,245
Education	2,715
Upkeep of house compounds and gardens	6
Cultural requirements	426
Dues to HISTADRUTH	917
Electricity	101
Administration	854
Watch and Ward	1,060
Insurance	82
Services like assembly hall, roads, compound, etc.	1,149
Training of members	121
Telephone	68
Government taxes	427
Donations	550
Interest on loans	2,028
Depreciation	782
Total	20,531

These details do not depict that after 9 years of its establishment, the settlement is financially sound. The annual expenses over the upkeep of the members and other common activities of the settlement account for over 21 per cent. of the total assets of the settlement and about 45 per cent. of the total gross receipts for the year. The gross profit was only LP. 14,048 as against LP. 20,531 spent on upkeep of members and their dependents. This apparent financial drawback was pointed out when the Delegation visited the settlement on 12th June, 1946. The leaders of the settlement and the representative of the Jewish Agency explained that a sum of LP. 7517 should be added to the gross profit (LP. 14,048) on account of investments in the various branches of the farm to arrive at real gross receipts available for expenditure over the upkeep of members and the settlement and that if this is done, the excess of receipts over expenditure would amount to LP. 1,034. Accepting this explanation evidently means that part of the capital was consumed. On the other hand, the total expense of LP. 20,531 over the upkeep of a population of 225 souls or LP. 91.2 PER CAPITA cannot be considered excessive in comparison with the standard of living followed on other Jewish farms.

It seems, therefore, obvious that the income obtained on this settlement is low. According to the standard prescribed by the Department of Agricultural Settlement of the Jewish Agency, the minimum economic unit per family (a unit of one man and one woman) is 25 DUNAMS of irrigated land or 100 DUNAMS of unirrigated land or such smaller or larger area which would yield an income enough to maintain an average standard of life followed by Jews in rural Palestine. In this settlement the cultivated area per family (one man and one woman) works out to 50.4 DUNAMS

unirrigated and 8 DUNAMS irrigated. There are no subsidiary industries. The proportion of area under irrigation is small. It appears therefore that in spite of its ten years' period of existence and the direct and indirect financial and other assistance received by it from the different Jewish organisations, the settlement has not yet been able to make itself financially sound.

(ii) SHAVEI ZION.

The area per worker in this settlement is much smaller. In 1943-44, it came to nearly 9 DUNAMS irrigated and 15 DUNAMS unirrigated. An unpublished study of Dr. N. Guttfeld of the Economic Research Institute of the Jewish Agency shows that during 1943-44 this settlement had a total population of 149 inhabitants of whom 74 were adult workers (males and females), 9 temporary members, 38 children, 14 youths in training and 14 dependents of members. The net income in that year amounted to LP. 20,000. Income from the farm was LP. 17,200, while the net return from non-agricultural work was LP.2,200. The latter figure includes work done by members for the cooperative societies of the settlement. Letting of rooms to visitors secured LP. 600. The net income PER CAPITA of the population, therefore, amounted to LP. 131, supplemented by LP. 4 from the letting of rooms. This was considered more than satisfactory by all the members. Dr. Guttfeld claims that there was no fundamental change in 1944-45 and that data far 1943-44 can safely be considered as applicable to 1944-45 conditions as well.

This settlement is at a short distance from the important town of Haifa. The market is thus close-by. Land is very productive.

CHAPTER 5.

CONCLUSIONS AND RECOMMENDATIONS.

It is obvious that collective and cooperative farmings as developed in Palestine exhibits a new way of living and working, bringing together people who very largely share the same economic, political, social and religious views. The extent of mutual goodwill and cooperation practised is almost Utopian. Many people believe that cooperation is carried to the extreme in the collective settlements. At the same time, there is not the least doubt that it is a unique experiment in the world in that it has been successfully executed on purely voluntary offorts.

Some of the important advantages which have accrued may be enumerated as under :—

(i) Optimum exploitation of the land resources ;

(ii) Larger output per unit of land, livestock and poultry ;

(iii) The system has resulted in adopting. to a considerable extent, rationalisation in the methods of production, sale and purchase, the organisation of educational and other social services for the commune and the opening of lucrative sidelines or industries. The workshops organised for the use of settlement itself have often paved the way for establishing well-organised industries capable of competing in the open market ;

(iv) The system is better fitted to cope with common problems like plant pests and diseases, health and sanitation, education, cultural needs, defence and mutual aid ;

(v) The development of discipline and mutual trust and confidence resulting in more solidarity of society ;

(vi) The drudgery so prominently noticeable on private farms worked without cooperation is reduced to the minimum ;

(vii) In a collective or cooperative settlement there is readymade social life — something of the warmth of life — for those who feel lonely and desolate elsewhere ;

(viii) It is a great institution for training in agriculture. Persons from urban areas or who are incapable of working and managing a farm independently can more esily become productive workers on a collective farm. It would be easier for them to work in association of people who are more experienced and in course of time they can even specialise ;

(ix) On a collective farm it is much easier for every individual to find his or her place according to his or her capacity, thus providing security and variety of employment. As a result, a maximum proportion of the population is released for production work ;

(x) It is much easier to settle on the collective farm land a person without money or experience. For an individual without anything to fall back upon, the collective farm offers insurance against unemployment, ill-health and want of social and cultural life ;

(xi) It would appear that any large scale expansion of agricultural production with relatively unskilled or indifferent labour would be greatly facilitated by adopting methods of collective and cooperative farming as practised in Palestine ; and

(xii) A collective farm can withstand better during periods of adversity or crisis. Similarly, smallholders' cooperative farms are in a better position to withstand calamity as compared with individual private farms.

It is apparent that collective farm offers the largest number of advantages from the economic and social points of view. On the other hand, it must be admitted that cooperation is carried almost to the extreme in a collective settlement. There is no privacy ; nor is their the real normal pleasure of family life. The incentive motive is decidedly less strong in a collective farm than on an individual farm, though this has not assumed importance in Palestine because of the strong Zionist movement to which everything else is made subsidiary. It is difficult to say at this stage as to whether the collective farms as organised in Palestine would continue to exist as such for long in view of the natural human tendency to possess private property and to have normal private family life. Opinion amongst the Palestine Jews is divivided though during the past 10 years or so the views in favour of collective working but individual living are gaining grouud.

Several factors have coutibuted to the success but the more important ones are—

(i) The ideal of Zionism and the development of a sense of a mission ;

(ii) Ideas of socialism amongst the young Jews immigrating from Russia and Central Europe played a large part in the develoqment of collective farming and living ;

(iii) The intensive persecution of Jews made them enter into a life and death struggle for establishing a national home in Palestine. This led to the urge towards manual labour ;

(iv) A high proportion of educated and intelligent people ;

(v) Men and women taking an equal active part, resulting in a great social and cohesive influence ;

(vi) The development of mutual trust, confidence and aid resulting from highly organised and efficient and honest management of the various types of cooperatives directly or indirectly concerned with the different types of collective and cooperative farming ;

(vii) A large section of the population ever willing to leave aside personal comforts and incentive to accumulate private property with the object of promoting social and economic welfare of the Jewish nation as a whole ;

(viii) The political zeal amongst the Jews to establish themselves on Palestine land in the teeth of opposition. A Retuer's message from Jerusalem on October 7, 1946 stated :

"Twelve new Jewish settlements were established in a secretly planned and efficiently carried out dawn-to-dusk operation by a small fleet of lorries loaded with hutting and other equipment. Water wagons were also brought to tide over the period before a single well planned water supply scheme for all the 12 villages can be put into effect".

All these 12 settlements were established on 6th October, 1946, in the desert of northern and southern Nigeban J. N. F. land and it is understood that 1000 persons including 300 girls were settled in the 12 villages.

(ix) There is no private property in land which is owned by the nation. Collective and cooperative farming in Palestine did not develop on farms already in existence. Land was newly acquired and laid out freshly for organising collective and cooperative farms ; and

(x) Financial aid and continuous advice and guidance by the Jewish Agency, Jewish Foundation Fund and the various institutions of the HISTADRUTH.

As against these, there were the following important disadvantages :

(i) A considerable portion of the land made available for collective and cooperative farming was unsuitable in that it consisted of large rocky, swampy and sandy patches. It is understood that the J. N. F. could purchase or acquire land with great difficulty, and in a large number of cases, only inferior stretches were made available for sale ;

(ii) Inadequacy of rainfall over a large part of the country both in regard to quantity and distribution ;

(iii) Difficulties and expenses incurred in securing irrigation water ; and

(iv) The Jews are still considered aliens and disliked by the local Arab population in Palestine.

There is not the least doubt that the Palestine Jews have successfully demonstrated to the world the practicability of extreme form of cooperation and mutual aid through the working of their collective settlements. Whether or not those settlements would hold their own through generations, they have provided to the other countries an extremely valuable guide for considering the degree and scope of the application of the system under varying conditions of the different factors of production and social trends. Palestine has also successfully demonstrated the working of the other types of cooperative farms.

A realistic discussion on the applicability of Palestine collective or cooperative farming to India must first consider as to whether the conditions and factors which made the system so successful in Palestine are present or can be created in this country. These conditions and factors can be grouped under two headings:— (i) social and political and (ii) economic. The social and political factors responsible for the development in Palestine are one religion and one language, the Zionist ideal and political zeal for settling on Palestine land at any cost, common social and political objectives amongst those forming themselves into a group for the purpose

of collective or cooperative farming, common social and food habits, the high degree of education amongst the Jewish immigrants aud the equal part played by women in the organisation and working of all the types of collective and cooperative farming as also other cooperative and social institutions. These considerations explain largely the reasons underlying the success achieved in Palestine in such a short period. None of them is present in the Indian rural society nor is it feasible to create them under the existing social and economic conditions.

The economic factors are the land and its environments, labour, capital and organisation. The conditions about land and its environments like soil, rainfall and climate are decidedly less favourable in Palestine than in many parts of India. Practically the whole of the Jewish labour force in Palestine agriculture was new to agricultural work, as a matter of that any kind of physical hard work. The labour was, therefore, very receptive to new ideas and improved methods of farming and production. It brought with it into Palestine its high standard of living and was forced to work hard to maintain that standard. It was besides much better educated to appreciate and follow a wider outlook of life and work. The human factor in Palestine has been the very foundation of the success achieved. The urge and enthusiasm for cooperation came from within, though, greatly influenced by conditions in countries from where the Jews migrated into Palestine. Though the immigrants themselves had very little capital of their own, the financial resources kept at their disposal were ample and readily available. Building up an improved agricultural organisation on lands newly acquired, with labour always ready to imbibe new ideas and work hard and with ample capital resources, was, therefore, a comparatively easy matter.

In a country like India, on the other hand, while it may not be difficult to arrange for reasonable financial assistance and expert service for advice and guidance, the conditions under which land is already held and exploited and the rural labour lives and works are decidedly more difficult and complicated. From the social point of view, cooperation of the type practised by collective settlements in Palestine would be unsuitable. An average Indian farmer would never agree to live and work collectively. At the same time, the problems of (i) optimum exploitation of land and conservation of soil fertility, (ii) increasing output of land so that it would be possible to support a larger population with the same area under cultivation, and (iii) preventing erosion of best men and women from the villages and building up a sound rural society, are of fundamental importance and must be boldly faced. This can undoubtedly be best done by adopting the cooperative method not only in farm production and marketing, but all the other social, cultural and economic aspects concerning agriculture and the agriculturists. It must be made worthwhile to continue to live in villages.

This brings one to the exact implications of the term "cooperative farming" at least in so far as conditions in India are concerned. India is a country of very small farms and each farm hardly oonsists one compact block of land. The small farmer has his small holding constituted of a number of fragments situated at a distance from one another. Coqperative farming would, therefore, mean bringing together an adequate number such small farmers, as owners of land and workers, to form themselves into a cooperative society with the object of (i) physically pooling together their small parcels of land, (ii) the members themselves working the land so pooled as the enterprise of the cooperative society, and (iii) every member sharing in the society's output in accordance with his contribution (a) of labour and capital and (b) of area and quality of land, to the society. The essence of real cooperative farming, therefore, is the pooling of small and scattered individual holdings and cultivating the land so pooled as one unit by the owners of the holdings. This pooling of economic resources can be done either completely or partially in respect of any one or more of the various lines of farming activity.

Cooperative or joint effort in regard to a particular line of farm activity is known to Indian agriculture since long before the cooperative movement, as now understood, was started in any part of the world and even now examples of informal cooperation of this type can be seen almost all over India. The joining together of neighbouring farmers for finishing up harvesting and sowing operations during the short time at the disposal is quite common in many villages, though the system is fast dying out due to growth of individualistic attitude amongst Indian farmers, which in itself is very largely due to disputes resulting from extreme sub-division and fragmentation of land holdings. Instances can also be quoted where farmers pool together their resources of land, labour and equipment for growing an expensive crop like sugarcane, but without forming themselves into a cooperative society. Sometimes in such cases the land may be taken on lease and farmers join together to work the land on the basis of one share per one man labour unit or one bullock labour unit (*e.g.* growing of sugarcane in the Warna river valley of Kolhapúr State in Bombay Province).

Recently, a few attempts have been made to organise cooperative societies for production in farming, though most of them cannot be called cooperative farming societies in the real sense of term. The joint farming societies and land colonisation societies organised in Madras for landless labourers and scheduled classes can be hardly called cooperative farming societies, since, it is understood, the only form of cooperation practised by them is in the matter of certain implements like ploughs and working animals. The experiment conducted in the Nadia district of Bengal aimed mainly at showing the economic advantages of cultivating land in one compact block of suitable size instead of small and scattered parcels of land, but the results were not very conclusive for lack of continuity of efforts and want of adequate local assistance and state patronage. Cochin has recently organised three joint farming societies in the forest land opened up for cultivation and similar efforts are being made in Bombay. Bihar has organised cooperative sugarcane growing societies at over half a dozen centres, where the land is actually pooled and the owners of land and bullocks may actually work on the joint enterprise getting wages in accordance with the rates of wages prevailing in the locality. The return for the individual land going into the pool is determined according to its area and quality.

These efforts, however, have not had, nor is there any reasonable possibility of their having any, wider applicability of cooperation in farming mainly because, (i) the number of societies organised is small and scattered, (ii) in most cases tbey aim at cooperation only in one or two lines of farming activity, (iii) the unit of organisation of each society is generally so small that it has very little effect in serving as an effective demonstration unit for others to copy, and (iv) unless cooperative farming covers a whole village or a group of adjoining villages and includes not only farming, but also marketing and other social and economic problems of the farmers as social units of rural community, no amount of propaganda and other attempts would lead to any widespread adoption of cooperative farming.

It is, therefore, suggested that experiments on cooperative farming should be taken up on a wider and intensive scale where the members can form a commune of their own not only for joint agricultural production but also for marketing and undertaking other social and economic activities for the commune as a whole. The current of thought on the problem is already moving in this direction. The Bombay Plan of Economic Development emphasises the importance of cooperative farming by recommending even some measure of compulsion for joint farming by pooling land without at the same time causing any dislocation in the individual ownership of land.

Apart from the other considerations responsible for the success of cooperative farming in Palestine, it is worth again mentioning that the pioneers who led the way were not agriculturists by profession nor had they any money of their own. Their early struggle was terrific. But once they got established, the

movement spread like the drop of oil. The newcomers preferred of their own accord the cooperative method of farming and marketing. The farms organised by the pioneer settlers acted as convincing demonstration units to the newcomers. The first logical step in India, therefore, would be to establish such demonstration units; perhaps one in each province might do to make a start. Such demonstration units should be organised on the lines of smallholders' cooperative farms in Palestine provided it is feasible, to secure land in one block and the right type of men. The land selected should be located as far as possible nearest a railhead or connected by a good road with a market town or railway station in order that mixed farming would be feasible. There would be some difficulty in the selection of right type of men sharing the same economic views and having the same religious, social and food habits.

It might be worth considering in this connection as to whether it would not be feasible to get the few hundreds of Indian soldiers who, while stationed in Palestine and prior to their demobilisation, received short instructions in agriculture and could see with their own eyes the organisation and working of the Jewish cooperative farms, as the basic human material for organising the demonstration smallholders' cooperative farms in India. While in Palestine, the members of the Delegation met a large number of such soldiers who, as anybody else would be, were highly impressed about the economic utility of the Jewish cooperative farming systems. Perhaps it may not be possible to get a large enough number of such soldiers of fairly homogeneous composition to organise a cooperative farm of their own on an economic basis. In that case, the few who would be available might be useful as leaders and enthusiasts. The agricultural courses to Indian soldiers in Palestine commenced in October 1945 and the details of the subjects taught are given at the end of this chapter. Major D.M.D. Davies who is in charge of this training has very kindly given the following information for the period ending June 1946 and it should be of interest.

"AGRICULTURAL COURSES, PREVOCATIONAL — INDIAN. DETAILS OF MEN DEALT WITH.

AGRICULTURE ORIGIN IN INDIA	NO.	NORMAL TRADE OR PROFESSION.	NO.
Punjab	120		
N. W. F. P.	13	Agriculturists	135
U. P.	38	Farm labourers	55
Rajputana	21	Service men	31
Bombay	31	Technicians	7
Madras	19	Clerks	15
Kashmir	8	Drivers mech.	11
C. P.	2	Schoolmasters	2
Bihar, Bengal, Assam.	14	Tailors	3
Nepal	2	Tradesmen	9
Burma	4		268
	268		

MECHANISED EROSION CONTROL			
Punjab ...	19	Agriculturists	12
N. W. F. P. ...	1	Farm labourers	8
U. P. ...	6	Service men	6
Madras ...	6	Tradesmen	5
C. P. ...	2	Carpenters	3
	34		34

The majority of men have had some connection with the land in civil life but we feel that unit commanders might have taken more care in the selection of a few of the men sent to us. For instance it is unlikely that a clerk in civil life will become a farmer on his release from the Army.

INSTRUCTORS.

The students on each course have been divided into sections of 20 to 24 men, each section in charge of one instructor. Capt. Sant Singh has been in direct control of the courses since their inception, with a V.C.O. for each section. All instructors were selected ba A.A.G.,/G.H.Q., M.E.F/I.A. and sent to us for instruction prior to the opening of the courses. They have also accompanied their sections on tour and excursions outside METC.

RECORDS.

It is not felt that a man can be taught much in six weeks, but his interest can be stimulated to such an extent that he may wish to take advantage of one of the many schemes proposed for Agricultural workers, farmers, and for Land Settlement on his release from the armed forces.

His interest has still further been awakened having seen here in Palestine the condition of a country in which bad agriculture has been prectised for so many years, and the amount of work, time and money required to return the country to agricultural prosperity.

Each student leaves here with a certificate that he has attended the Agricultural Course, showing the grading according to the usual Army course regulation, with in most cases a short remark on the man's ability. Thus if one of our students, on his return to India presents himself for further training and/or help and advice our certificate may be of some help to him. In addition, summarised records are sent to A.A.G., I.A., G.H.Q., M.E.F., and copies held here. Also each man takes away with him precis of lectures given on the course, with the Roman Urdu translation on the back.

SUGGESTIONS.

The fact that a man has been on an Agricultural Course here to be recorded on the Civil Employment Form which the man is given on his release.

That Provincial and District Agricultural and development authorities make use of and help these men on their return home. As an example, some men have expressed a desire to commence poultry farming, or dairying, or both, These men will require guidance and help which can only be supplied by the local authorities".

Schemes for settling ex-soldiers on land in different provinces have already been sanctioned. It is understood that cooperation might play an important part in these resettlement schemes, but it would be of the greatest importance to direct these efforts towards the organisation of smallholders' cooperative farms. It would be worth subsidising such farms. Their value as demonstration units would be inestimable. These are broad suggestions open to long discussions and adjustments. The planning of an actual scheme would be laborious and would have to be left to experts in agronomy, dairy farming, marketing, irrigation, sanitation and health, education, etc

It is also recommended that the feasibility of settling landless labourers on state or other available and cultivable land might be examined. It is understood that attempts were made in the past in certain areas (*e.g.* Gwalior and Indore) towards colonisation of unoccupied land and that such attempts did not succeed appreciably because no efforts were made towards cooperation and for organising the colonists as social human beings. It a fairly homogeneous group of 50 or

more families of landless labourers could be secured and suitable land made available, it might be possible to organise a smallholders' cooperative settlement with adequate arrangements for education and other social amenities. The work would have to be subsidised and even day to day management of the settlement would have to be arranged for some period, of say 5 years. At least some of these settlements would come out successful as demonstration units.

Cooperative farming in areas already occupied would not be a feasible proposition because of the land laws and systems of land tenure and the individualistic attitude of an average Indian farmer. Conditions under which land is held and exploited are not favourable The human material is not ready. At the same time, it should be possible to introduce cooperative effort with regard to at least some of the economic activities of farmers. It is considered that cooperative marketing would appeal to the majority of the farmers. Yet the progress in cooperative sale of farm produce and purchase of farm and household requisites has been very small, mainly because of the splits created so easily by trades people and want of efficient and honest management. The problem, therefore, has to be handled from the point of view of stopping all possible differences in views amongst the farmers and providing management as efficient and as honest as possible. Considering the importance of the question and taking into account the poor progress made so far in cooperative maketing, as also the present conditions of the rural society, this can best be done by compelling every producer to market his surplus produce and to purchase his farm requirements (like seed, manure, implements and tools, etc) through the village cooperative society and arranging for the management of the society by paid officials of Government. It would be essential to link up marketing with credit so that the farmer would not be required to go to moneylenders for a loan. This would obviously result in opposition — direct and indirect — from the trades people, moneylenders and from those who sympathise with them. But even if they are honest, these smaller interests must be sacrificed for the greatest good of the greatest numbers — of the nation. The training and experience the farmer would receive as a member of the marketing cooperative would be of utmost importance for extending cooperation to his different activities in farm production, with the ultimate object of organising cooperative production and marketing.

It would be essential to undertake such schemes over a wide area, so as to make them practicable from the economic and organisation points of view. Perhaps one whole district would be a good economice unit.

Apart from the farmer and his land and capital resources, the most important factor which would determine the extent of success or failure in cooperative farming and marketing would be the public or Governmental agency entrusted with this work. No amount of expenditure would assist if officers and others in charge of this task act in a mercenary manner. Every one of them must make this as their life's mission to be performed for the good of the country with the greatest possible zeal and honest efforts. The members of the public in general and the social and political leaders in particular must also adopt the same attitude and encourage at every possible opportnoity the work of extending cooperation in every possible field of the social and economic activities of the Indian farmers.

DETAILS OF AGRICULTURAL COURSES GIVEN TO INDIAN SOLDIERS IN PALESTINE.

NO. 3 COMMAND EDUCATION COLLEGE, WING (COLONIAL), M.E.F.

AGRICULTURAL COURSES, PRE-VOCATIONAL — INDIAN.

GENERAL SYLLABUS. DURATION OF COURSE — 6 WEEKS.

Lecture — Introductory talk — Reasons for the course.
" Soil, formation.
" Soil, composition, general.
" Soil, composition with special reference to India.
" Water and the Soil
" Control of water in the soil where rainfall is heavy.
" Control of water in the soil where rainfall is light.
" Soil Erosion — what it is, dangers of erosion, conditions making erosion possible, how soil erosion occurs.
" Soil Erosion — how it may be prevented.
" Soil Erosion — how it may be controlled once it has commenced.
" Reclamation of saline soils.
" The plant — structure.
" The plant — development.
" Plant food in the soil and in the air.
" Food stored by plants.
" How food enters the plant through roots and leaves.
" Irrigation — principles.
" Irrigation — with special reference to India.
" Animal manure — use in India as (i) fuel. (ii) manure.
" Compost. — manufacture, (Indore method). alternative.
" Artificial fertilisers.
" Green manures and cover crops.
" Fruit propagation. (i) cuttings, layering, grafting (ii) budding, pruning, cultivation.
" Citrus — propagation and improvement.
" Oil Palm — present position. improved cultivation. extraction of oil.
" Coffee — suitable varieties and their cultivation.
" Importance of seed selection.
" Control of pests (i) insects. (ii) fungi.
" Deep cultivation or Bastard trenching.
" ANIMAL HUSBANDRY.
" Cattle — types.
" Advantages of cattle farming. Breeding.
" Management and improvement.
" Calf rearing.
" Herd records.
" Working Oxen.
" Goats — management.
" Sheep — management.
" Poultry — management; breeding (incubators); housing, improvement, feeding.
" Diseases of animals — general. specific.
" Mixed farming — advantages.
" Advantages of cooperative farming and marketing. Methods of cooperative farming.
" Liaison and cooperation between local farmers and Government Departments carrying out experimental and development work for the benefit of the farmers.

VISITS AND EXCURSIONS.

KIRYAT ANAVIM.	Jewish Settlement, commenced 25 years ago. Eroded hills near Jerusalem, reafforestation and land reclamation. Cattle and poultry. Dairy. Fruit propagation. Terraced agriculture. Cooperative farming and marketing.
GAZA FOREST.	Palestine Forests Deptt. On Mediterranean coast. Drift sand control by afforestation.
Doroth and Ruhama.	Jewish settlements in Negev. Reclamation of old overgrazed and neglected agricultural areas in the Coastal Plain. Reafforestation Water conservation. Cattle and poultry. Fruit propagation. Contour cultivation, terracing and planting. It will be difficult to find elsewhere examples of land reclamation and erosion control under three sets of such widely different conditions as the three above.
ASLUJ.	Jewish settlement in desert conditions, Negev. Founded 1943. Reclamation, crop production on saline soils. Water conservation. Experiments in afforestation with view to control of wind erosion.

AGRICULTURAL RESEARCH INSTITUTE, REHOVOTH.

	Laboratory research — soils, dairying, plant diseases, animal diseases, stock feeds, conserving and marketing of local fruit. Subtropical fruit propagation. Varietal tests of tree species for use in soil reclamation work in Palestine. Extension work into the settlements all over Palestine.
NORTH PALESTINE.	Students tour North Palestine being based on Haifa for up to a week.
HULE SWAMP AREA.	At one time one of the worst malarial areas in the world, now gradually being settled and reclaimed. In this area we have had the full cooperation of the Dept. of Malaria Control — Prof Mer.
AVELET HASHAHAR.	Jewish settlement established 17 years, in the Hule area but not in the swamp. Fruit and vegetable production. Cattle and poultry. Cooperative farming and marketing.

SETTLEMENTS IN THE RECLAIMED SWAMP AREA.

Large scale drainage scheme — cooperative effort.
Malaria control measures — mosquito and fly proof houses.
spraying of swamp and pools.
siting of cattle and poultry, houses in relation to dwellings.

Establishment of fishing industry.

KADOORIE AGRICULTURAL SCHOOL, MT. TABOR. — Dr. Fiat and Staff.

Lectures — Soils.
Plant nutrition.
Crop rotation.
Contour cultivation and erosion control.

DEMONSTRATION. — Stock breeding and rearing.
Poultry keeping.
Afforestation and arboriculture.

Explanation of the purpose of the school, advanced agricultural education, Government aided.

PARDESS HANNA. Secondary Agricultural School. Jewish Agency. General education to Matric. standard combined with agricultural education — 5 years course. School financed by students fees, farm produce, and grants from Jewish Agency.
Tour of school and explanation of the curriculum.
Lectures — Entomology.
Soil Science.

Tour of school farm — Orchards.
Stock.
Poultry.
Farm implements.
Botanical garden.

HAIFA TECHNICAL COLLEGE. Hydraulic dept.
Lectures — irrigation. drainage.

GROUNDNUT FACTORY, HAIFA. Soap and oil production.
Groundnuts imported from India.

TNUVA DAIRY, HAIFA. Manufacture of milk products.
Cooperative dairy on modern lines.
Explanation of cooperative collection of milk from settlements, handing and manufacture, marketing.

HAMASHBIR HAMERKAZI, TEL AVIV. — Cooperative buying unit for the Agricultural settlements and disposal to them.
Seeds, farm implements, fertilisers, insecticides, etc.

Tour of Haifa parks and gardens and amenity woodland.

FILMS SHOWN DURING COURSE. — "School for farmers"
"Soil Erosion"
"Land of five rivers"

We are obtaining further films in the near future produced for the Resettlement Directorate.

All lectures are where possible fully illustrated by diagrams, illustrations, etc. and also where possible with our facilities, applied in the field.

It will be appreciated that visits, lectures by civilians, demonstrations, etc. would not have been possible without the help and cooperation of the Palestine Agriculture and Forestry Depts, and very many Jewish Agricultural installations. It is our considered opinion after over a year's experience with agricultural courses for troops of many nationalities that the opportunities given us for instruction in established agricultural institutions installations throughout Palestine, have formed the most useful and interesting part of the instruction given.

At the request of A.E. (C.L.T.) G.H.Q., M.E.F. a syllabus was drawn up and courses organised of three weeks duration, for West African and Indian Troops, in the use of heavy machinery on large scale soil reclamation and anti-erosion work. Equipment was obtained through WD sources.

SVALLABUS. DURATION OF COURSE—3 WEEKS.

A. LECTURES.

1. What erosion is. Geñeral position with particular reference to the Dust Bowl of the Mid-West of American, Palestine, Egypt, Arabia and India. (also for West Africans the problems of Northern Nigeria).
2. Composition of the soil.
3. Water and the soil.
4. Contral of water in the soil.
5. Soil erosion — paper No. 1. What it is, dangers, conditions making erosion possible, how soil erosion occurs.
6. ,, ,, ,, 2. How it may be prevented.
7. ,, ,, ,, 3. How it may be controlled once it has commenced.
8. Strip cultivation.
9. Reclamation of swamp. (its importance in tropical countries.)
10. Result of deafforestation and the need for safeguards.
11. Reclamation of saline soils.
12. Exhausted land and the necessity for rest.

B. VISITS.

1. Asluj. — Reclamation of saline soil and crop production in area of low rainfall. Water conservation.
1. Gaza Forest — Control of drift sea sand, afforestation of dry soil.
3. Doroth and Puhama. — Deterioration of area at one time productive and its reclamation.
4. Kiryat Anavim and dist. — Hill erosion and reclamation, afforestation and terraced agriculture on badly eroded hill slopes.

108907

C. PRACTICAL WORK.

1. Explanation of control work to be done on badly gullied area at METC, MEF—.
2. Demarcation of contour ridges and terraces.
3. Construction of contour ridges and terraces by tractor and grader and also by hand.
4. Construction of dams in gullies.
5. Use of grass, shrubs and trees as an erosion control measure.
6. Planting of trees as wind brakes to control wind erosion.
7. Maintenance of equipment — caterpillar tractor, grader, etc.

EQUIPMENT USED.

D4 Caterpillar tractor with angle dozer
Grader
Abney level
4 furrow plow.

On a recent visit to East Africa we were asked if we could give preliminary training to East Africans for future employment with the Kenya soil conservation service. This could not be done due to the repatriation of EA troops.

DETAILS OF FACILITIES FOR PRACTICAL WORK HERE.

CROP AND FORAGE PRODUCTION. — 2½ acres under irrigation, irrigation by means of sprinklers. Used chiefly for production of vegetables, and feed for our stock.

1 acre flood irrigated, used for vegetable production.
Approximately 15 acres 'dry' farming. This area of course can only be used to capacity during the rains and immediately after. Used for vegetable and forage production.

STOCK — CATTLE.

We have six local cows (Damascus heifers) taken from the Tel Mond WD stock depot. (now closed). These were in very poor condition when we took them over but with good management have improved considerably. From the instructional angle, particularly when dealing with Colonial and Dominion students, these scrub cattle have proved very valuable. Four have recently calved.

The cattle are fed on WD supplies and green forage grown here.

POULTRY.

Pedigree strains of White Leghorn, Austrolope, cross Leghorn/Light Sussex. Improved local stock bred from eggs from selected hens obtained from the Govt. Stcok Farm, Acre.

All poultry are properly fed and managed, the importance of increased care in management allied with improvement of stock is stressed.

GEESE.

Bred from local stock.

RABBITS.

Bred from stock obtained from Acre Govt. Stock Farm.

PIGS.

Several Indian students have interested themselves in pig management. Our pigs offer good instructional material in improvement as they were in very poor condition when we took the farm over in Aug. 45 due to continual inbreeding and bad management over a period of from four to five years. We have a pedigree Large White boar with breeding sows half bred Middle White and one selected local sow, probably of Cypriot or Sudanese origin.

BEES.—

Three bee hives.

Implements.

Implements.

Incubator. 300 egg, kerosene heated on loan from the Palestine Agriculture Dept. Heavy implements for use with tractor — ploughs, harrows, seed driller, ring roller, etc. D4 Caterpillar Tractor with angledozer. Implements for use with mules or oxen. Six mules with equipment.

AGRICULTURAL LIBRARY.

The Indian section of the library is not so well equipped as it might be, but all available information and publications have been obtained. Application has been made to India for further publication. etc. The Indian instructors have access to the complete library and can use any applicable books and information available.

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GOVERNMENT OF INDIA

COMMERCE DEPARTMENT

REPORT

OF THE

RECONSTRUCTION POLICY SUB-COMMITTEE ON SHIPPING

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INTRODUCTORY.

In accordance with the decision of the Reconstruction Policy Committee on Shipping at its meeting held in New Delhi on the 26th October, 1945, to form a Sub-Committee, the Commerce Department, in their letter No. 172-MI (23)/45-D, dated the 10th November 1945, appointed us with the following terms of reference:—

"To consider the Departmental Statement on Post-war Shipping Policy, and in the light of that statement and all relevant considerations, to recommend—

(1) what would be a suitable tonnage target for Indian shipping, to be attained within a period of five to ten years;

(2) what percentage shares of the maritime trade of India and other trades in which India is interested both coastal and overseas, cargo and passenger, should be secured for Indian shipping; and

(3) what measures should be taken—

(a) to regulate the shipping industry with a view (i) to preventing the formation or establishment of combines or monopolies or excessively large units within the industry and (ii) to ensuring that the number of shipping companies is no larger than economically adequate,

(b) to ensure a fair and equitable distribution, among existing companies and those yet to be established of trades which may hereafter be secured for Indian shipping.

The Sub-Committee will be competent to make such other recommendations as seem germane to the subject."

2. We met in New Delhi on the 15th and 16th February 1946 and agreed upon certain general principles which should govern our approach to the problem. We also decided to meet again after the middle of April by which time most of the statistical data required by us were expected to be ready. The Secretary was also given instructions to collect and compile the necessary statistical data in so far as this was found possible, and to prepare certain sections of the draft report covering those points on which agreement had been reached. We met again in Bombay on the 30th April for considering the draft prepared by the Secretary. We met finally in Delhi on the 13th December to complete our report. We considered the desirability of taking oral evidence and sending out a detailed questionnaire to shippers, ship-owners, etc., but, as we felt that the information obtained thereby was not likely to affect materially the general principles laid down by us for a national shipping policy, we decided not to pursue this idea.

3. In order to appreciate the significance of the future development of the vital though nascent Indian shipping industry, we review in the first chapter the place of shipping in the principal maritime countries of the world. In Chaper II we trace historically the attitude of the Government of India towards Indian shipping. We lay down in Chapter III the objectives of a national shipping policy for India. In Chapters IV and V we deal with our terms of reference. Chapter VI contains a summary of our recommendations.

4. We are grateful to Mr. Doraiswamy, our Secretary, for his indefatigable labour in collecting the material required by us and the very valuable assistance that he has given to our deliberations. We also wish to acknowledge our indebtedness to Mr. Subramaniam, Statistician to the Economic Adviser to the Government of India, who very kindly placed at our disposal his intimate knowledge of shipping statistics generally.

CHAPTER I.

The Place of Shipping in Maritime Countries.

(i) *Shipping in National Policy.*—Every maritime country looks upon its shipping as a great national asset, a powerful instrument of national economic policy, a vital need for the growth of its trade and commerce, and a second line of national defence. Almost all important maritime countries have laid down a well defined shipping policy. For instance, the United States of America have laid it down in the Merchant Marine Act, 1936, that:—

> "It is necessary for the national defence and development of its foreign and domestic commerce that the United States shall have a merchant marine (a) sufficient to carry its domestic water-borne commerce and a substantial portion of the water-borne export and import foreign commerce of the United States and to provide shipping service on all routes essential for maintaining the flow of such domestic and foreign water-borne commerce at all times, (b) capable of serving as a naval and military auxiliary in time of war or national emergency, (c) owned and operated under the United States flag by citizens of the United States in so far as may be practicable, and (d) composed of the best equipped, safest and most suitable types of vessels constructed in the United States and manned with a trained and efficient citizen personnel. It is hereby declared to be the policy of the United States to foster the development and encourage the maintenance of such a merchant marine".

Announcing in Parliament the Shipping Policy of the United Kingdom, Ministers of His Majesty's Government have, in recent years, stated:—

> "The Merchant Navy is a vital national interest and will remain so in peace time as it is in war".

> "Our Merchant Navy must be at least as large as before the war and so much larger as British enterprise and efficiency can make it, in a world from which we hope artificial obstacles to trade will have been removed".

> "The Government are determined that the British Merchant Navy, ships, officers and men, shall be reconstituted as a large and efficient fleet".

> "This country must—I ask the Committee to observe the word 'must'—continue to serve the world with a large and efficient merchant marine. The word 'must' is fundamental."

These are far-reaching and heartening declarations of national policy regarding shipping by the most important maritime countries of the world. India is a great maritime country. She has a large and extensive overseas trade. By her georgraphical position she commands the Indian Ocean and occupies a strategic position in the South and the South-east Asia. Shipping passing from West to East and from East to West has to cross the waters adjacent to India's shores. These fundamental considerations make it imperative, both in the interest of India as well as in the interest of other countries, in the Indian Ocean, that India should have a large and powerful navy, both of supply and of defence. Every maritime country has, as stated above, its own national shipping policy. India alone is a glaring exception to this universal rule. Neither have the Government of India, hitherto laid down any national shipping policy, nor are the nationals of the country protected—not to say, encouraged—in their enterprise to develop shipping. It is, therefore, of supreme importance that India should lay down her shipping policy for building up her own national mercantile marine.

Shipping operates both in national and international waters. No maritime country can afford to ignore the necessity of securing the proper place for her shipping in international trade. The following is quoted from an important American publication and it shows the vital part which shipping plays in international trade:—

> "International shipping is rooted in the necessity for large scale exchange of basic commodities between the peoples of the earth; passenger travel may be curtailed without serious national consequences; interference with the movement of overseas mails may now be mitigated by cable and radio communication and by air transport; stoppage of the transborder movement of finished product would react unfavourably on both the exporting and the importing country; but stoppage of the world flow of basic commodities would have a paralysing effect on the progress of nations. Without cargo carriers on the world trade routes, the Asiatic would not burn American kerosene in his lamp; nor distant markets consume American wheat; the European could not so cheaply cultivate intensively an unproductive soil; the American could not so cheaply produce a large volume of high grade steel; the Briton would lack his supply of fresh New Zealand mutton and Argentine beef. It is the carrier of basic commodities in large quantities and at low rates which renders possible the concentration of materials, machines and men at strategic points where this combination may most efficiently produce an industrial product; it is the refrigerator ship which makes the food products of one area the daily diet of the world."

Shipping is one of the oldest forms of transport and it is still by far the most important. It carries over three quarters of the world's trade and its importance as a means of transport is not likely to diminish in the near future. Sea has always been a supreme issue of national policy and shipping has been the effective means of extending trade and territories. A merchant marine is a factor of such national importance in war as well as in peace that no nation can afford to neglect the development of its national shipping in the overseas trades. Neutral countries have found as a result of the bitter experience of the last two world wars that they would be deprived during war of the shipping services of the fleets of belligerent countries on which they relied during days of peace. The development of a national merchant navy has now therefore been recognised as one of the most fundamental responsibilities of the state.

A Belgian Government Report in 1930 in support of a proposal to assist shipping financially made the typical points that shipping contributed largely to the equalisation of the balance of payments since freights could be looked upon as invisible export, the shipping industry spent considerable sums in the country on construction, maintenance, supplies, repairs, food, insurance and wages; shipping also protected national commerce and industry abroad and the efficiency of transport itself was promoted by a national marine; and the market for national goods was favourably influenced when the national flag was shown in foreign countries.

Apart from these considerations, national prestige was an important cause of the development of merchant fleets in some of the countries. In 1937 Cuba, besides advancing the usual reasons, justified an increase in her national marine as "an essential aggrandisement of Cuba".

Between 1913 and 1932 the total merchant marine tonnage of the world increased by 48% while the volume of sea-borne trade was practically the same in 1932 as in 1913. It is often urged by interested critics that this

world over-tonnage in the early nineteen thirties was the result of the shipping policy adopted by some of the maritime countries during the inter-war period. They however ignore the fundamental fact that the United Kingdom had the lion's share of the carriage of the world trade before the first world war. According to the Report made by the Board of Trade Departmental Committee in 1918, before the war, one-half of the world's trade was carried in British ships, including nine-tenths of the Inter-Imperial trade, over three-fifths of the trade between the Empire and foreign countries, and nearly one-third of the trade between foreign countries. Such an inequitable distribution of the carriage of the world trade was inconsistent with the growing recognition of the responsibility of maritime countries for serving their maritime trades and ensuring their national security by building up their own navies of supply. The discharge of this vital responsibility by some of the maritime countries may have increased the tonnage in the world during the interwar period far beyond the needs of the world trade. They cannot, however, be blamed for it. Both justice and fair play are on their side. The domination of one or two maritime countries over the entire field of shipping of the world cannot and will not promote real international co-operation which the United Nations are anxious to secure. Such co-operation can only be based on the clear recognition of the just claims of all maritime countries to build up their own merchant navies commensurate with their vital needs. It is however a tragedy that what other maritime countries in the world did to build up their national shipping India did not do. India had no national government. India had therefore no national shipping policy.

(ii) *Expansion of Shipping by State aid*:—We give below a summary of the shipping policy of U. K., France, Germany, Greece, Italy, Japan and the United States during the interval between world wars I and II State aid in a variety of forms has been given by these seven maritime countries from time to time for developing their own shipping. In recent years the general trend has been for Governments to intervene increasingly in the interests of their mercantile marines, or to create a mercantile marine where none existed. Among the lesser maritime countries, Belgium, Brazil and Chile may be mentioned as having actively promoted the development of a national mercantile marine, and Cuba, Egypt, Iran and Siam as having planned or carried out measures to create one.

United Kingdom:—It has often been claimed on behalf of the United Kingdom interests that they do not ask for state help for developing their national shipping. Such a claim is not in consonance with facts. Navigation laws of Great Britain and the imposition of discriminatory tariff by that country on shipping owned elsewhere than in Britain provided British shipping vital protection and power in the early period of its growth. The unrestricted and exclusive patronage extended by the Government of India at the behest of Whitehall to British Shipping in the carriage of all Indian trades for over a century enabled it to expand its activities and to build up powerful financial resources. Moreover British Shipowners demanded in 1918 the reservation of Inter-Imperial trade to British ships, and claimed during recent years that the bargaining power of India in regard to any trade agreement she may conclude with a foreign country should be utilised not for the promotion of Indian shipping but for consolidating the position of British shipping in the maritime trades affected thereby. Further, substantial financial assistance was given by the state to British shipping during the inter-war period.

Under the Trade Facilities Act, up to the end of 1929, a sum of about £29 millions had been granted for shipbuilding, some of the guarantees being of account of Norweigian, Italian, Brazilian and Rumanian ships under construction in Great Britian. In addition, a further £11 millions was guaranteed under Northern Ireland Legislation. A merger between the Cunard and

White Star Companies was provided for in an agreement of 1933 between the two companies and the Treasury. With a view to ensuring the completion of the "Queen Mary" the Treasury undertook to make advances not exceeding £3 millions secured by issues of debenture stock. The Treasury further undertook to promote legislation that would, *inter alia*, enable the Government to advance to the Merger Company the cost (not exceeding £5 millions) of a new ship or ships and to secure to the company in respect of all ships concerned advantages identical with those under the Cunard insurance agreement of 1930. The agreement of 1933 was implemented by an act of 1934, which empowered the Treasury to advance to the Cunard-White Star merger sums up to £9·5 millions for purposes of constructing one or more large capital for the the North Atlantic shipping trade and of providing working capital for the merger company.

In order to help British tramp shipping, the British Government decided that a subsidy not exceeding £2 millions should be granted for the year 1935. The British Shipping (Assistance) Act of 1935 implemented this arrangement. The tramp subsidy was extended up to 1936 and again to 1937 when it lapsed. In 1939 a bill, restoring the subsidy for five years from 1st January 1940 at a rate not exceeding £2·75 millions per annum, was not proceeded with owing to the outbreak of war. Further Government assistance to shipping was also provided for in the British Shipping (Assistance) Bill of 1939. These provisions related to facilities for the building of general trading vessels by means of loans not exceeding £10 millions and by grants not exceeding £500,000 a year for five years. Financial help exceeding £320,000 was actually given for the building of ships in 1939-40 and it was only the outbreak of the war that stopped the free flow of this monetary assistance. Liner services were to be helped to meet subsidised foreign competition by grants, loans, guarantees, etc., up to a maximum of £10 millions.

In addition to the financial assistance outlined above, it was announced in the House of Commons by the President of the Board of Trade that "the Government will continue to take all possible steps to promote the interests of British shipping in connection with trade negotiations and other discussions with foreign Governments". In a memorandum issued on the 6th August 1940 in London it was announced by the British Government that "the progress of legislation was interrupted by the outbreak of the war, but the necessity of maintaining the British mercantile marine in adequate strength and in a position of full competitive effeciency is recognised no less strongly by the Government today. They will, therefore, keep this question constantly in mind as one which will be necessary to ask Parliament to deal with in due course."

As stated in a previous paragraph, the British Government have further announced that they will take all possible steps to ensure that the British Merchant Navy, ships, officers and men, shall be constituted as a large and efficient fleet.

France.—France has granted aid to her shipping more extensively and for a longer period than any other country. In spite of subsidies granted to French shipping before World War I, French Shipping Companies got into financial difficulties after the last Great War and during the great depression of the early thirties. The French Government were therefore compelled to take a more active part in the organisation of the mercantile marine and, in particular, in the building of a substantial subsidized tanker fleet for reasons of national defence.

In 1932, the French Government voted a temporary loan of about 150 million frs. to cover the deficit for that year and guaranteed a loan of 68·7 million frs. for completion of the building programme. The annual subsidy for the next 14 years was to be increased to an amount varying between 50 million frs. and 150 million frs., according to the yearly deficit. The arrangements for operating

subsidies were revised in 1934 and the amounts increased to meet both the extra cost of the eight-hour day and the urgent need for strengthening the commercial fleet. The state also incurred expenditure in connection with the super liners; 35 million frs. was advanced for the construction of the 'Normandie'. As a result of these and other measures, the French Budget Estimates for assistance to shipping in 1939 amounted to just over 1,000 million frs.

Germany: After the war of 1914-18 the German Government committed themselves by agreements with shipowners in 1921-22 to replacing one-third of the tonnage of the Mercantile Marine surrendered under the Treaty of Versailles. The original provision of 12 milliard marks was increased by 18 milliard marks in 1922, owing to the depreciation of the mark. In 1925 the Government authorised a loan fund of 50 million marks (by this time the mark had been stabilised) for new construction. The fund was exhausted by October 1928. Subsequent direct financial assistance upto 1932 consisted of a loan of 18 million marks in 1926; an export credit scheme in 1930 for the building of ships for 'foreign account'; a Government guarantee in 1932 of a loan of 20 million marks to German shipowners; a further guaranteed loan in 1932 of 77 million marks and a grant in 1932 of 12 million marks in loans to subsidise the scrapping of some obsolete vessels. In 1933 loans of upto 45 million marks were authorised for assistance to shipping and these were followed in the same year by a further grant of 20 million marks. Since 1933 operating subsidies were paid by the German Government on the basis of 3 Pfennigs per gross ton per day *plus* 20 per cent of the wages and salaries of the crew, subject to a maximum of 7·5 marks per gross ton in six months—roughly equivalent to 20 or 25 per cent of the total operating cost in the case of a vessel of 6 thousand tons. In 1934 it was stated officially that German shipping subsidies were necessary and would be continued so long as German shipping remained at a disadvantage with its competitors on the freight market in regard to foreign exchange rates.

Apart from the direct subsidies mentioned above, Government assistance included a number of indirect ways of helping German shipping, *e.g.*, placing of orders through a financial holding company for three 18,000 ton passenger liners for the Far East service; measures to enable German shipbuilding yards to quote competitive prices, Government making up the difference between British quotations and the lowest economic price that the German yards could quote.

Greece: The Greeks are the oldest maritime race of Europe. Between 1913 and 1931, according to *Lloyd's Register of shipping*, the tonnage of the Greek shipping of over 100 tons practically doubled, notwithstanding destruction of 46 per cent of the Greek Mercantile Marine during the war of 1914-18. In 1931, the Greek commercial fleet consisted of 539 vessels of 1·4 million gross tons.

Special subsidies as were granted to Greek shipping were directed to improve the efficiency of the fleet by reducing the age of the vessels. Greek foreign mails were carried principally by foreign vessels and in 1926 certain fees were levied on vessels registered under the Greek flag. No steamer exceeding 30 years might be registered as a Greek steamer and money collected from these fees was to be used by Government for subsidies to passenger steamers less than 10 years of age serving Greek or international coast lines. In 1927 the Council of the merchant marine approved a decree granting subsidies to new passenger vessels. In 1936 the Greek Government granted an annual subsidy of 5·9 million Drachmae for weekly sailings of vessels on certain routes.

Italy: Italy with her dependence on imports for raw materials, her long coast line and her situation as a transit country, could consider herself entitled to a flourshing mercantile marine. Against a lack of coal and of the ores from which steel could be made, she could set off an abundance of labour at low wages. Before the first World War, Italy had a system of subsidised contract services, and also navigation and construction bounties. In 1926, a new decree

fixed subsidies for shipping services for periods varying from 20 to 25 years according to the importance of the service, the grand total for the period 1925-26 to 1945-46 being fixed at 3,205 million lire. The amounts were increased by a further Act of 1928. From 1929 a series of contracts was entered into between the Italian Government and the Shipping Companies for the operation of specified subsidized services to South America, Africa, the Far East, Australia, etc. The Italian budget for shipping subsidies for 1934-35 totalled 264 million lire.

In addition to direct subsidies, credit facilities were made available through an Italian Maritime Credit Institution established in 1928. Under this scheme the total of the loan operations for the first three years was fixed at one thousand milloin lire. In 1933 a special series of bonds amounting to 200 million lire in the form of mortgages was guaranteed by the State. By a decree of 1938 in connection with the 5 year shipbuilding plan of 1937 state assistance was provided to ship builders in the form of duty free importation of shipbuilding materials and exemption from taxes, in respect of shipbuilding contracts and to ship owners in the form of amortization grants; exemption from Income-tax on the earnings of ships covered by the plan, etc.

Japan: Since 1885 the Government of Japan had paid close attention to shipping problems and Japan's experience in her early military campaigns brought home to her the importance of maritime transport in war time. From 1897 to 1906 Government subsidies to shipbuilding averged about 2,50 thousand yen per annum, and from 1906 to 1916 about 1·3 million yen. Between 1914-15 and 1930-31 the total operating subsidies budgeted for fluctuated between 8·2 million yen and 13·9 million yen. Credit facilities for shipowners and shipbuilding were usually accorded through special banks. The authorised maximum of advance by the Industrial Bank for shipbuilding, which was 5 million yen in 1930, was gradually increased until it reached 30 million yen in 1936-37 and one hundred million yen in 1937-38. The Ministry of Finance undertook to pay upto 70 per cent of any capital loss in case the loans were not repaid.

With a view to improve the unfavourable distribution of the Japanese Mercantile Marine, several scrap and build schemes were put into operation between 1932 and 1937. Forty-eight new ships with a speed between 15½ and 18 knots of a gross tonnage of 300,000 were built under these schemes. The actual financial help given for building ships varied from 33 1/3 per cent to 50 per cent of the cost of the vessel. In 1937 these ships constituted more than 4/5th of the total number of Japanese vessels of over 4,000 tons gross and less than five years old. There was a further announcement in 1937 to build high class passenger and passenger-cargo liners of not less than 6,000 tons gross and 19 knot speed at rates of subsidy often exceeding half the building cost.

U. S. A.: Before the first World War, the United States Mercantile Marine was even short of the minimum requirements for naval auxiliaries in the event of war. The first remedial action was the Shipping Act of 1916, establishing a United States Shipping Board for the purpose of creating and developing a naval auxiliary and naval reserve, and a merchant marine, as well as regulating sea transport. The United States Shipping Board Emergency Fleet Corporation with a capital of $50 million was incorporated for the purchase, construction, equipment, charter, etc., of merchant vessels in the commerce of the United States. While originally intended as a regulatory and advisory body the entry of the United States into the war forced the Board to take up the operation and later the liquidation of a fleet of merchant ships acquired for war purposes. The American policy as indicated in the Jones Act maintained the United States Shipping Board and transferred to it all Government owned vessels. In 1926 the Shipping Board reported to the United States senate their conviction that without additional legislation for direct or indirect Federal aid, a privately owned mercantile marine could not be established. A

new Merchant Marine Act known as the Jones White Act of 1928 opened the way for further aid to American Shipping operators. In March 1930 provision was made to increase the existing mail subsidy of $650 thousand paid to the United States Lines to $3·6 million. Some thirty-four mail contracts opened or concluded in 1928 brought the total yearly payments to private operators to $21 million.

The entire shipping policy was overhauled by the Roosevelt Administration and every endeavour was made in the Merchant Marine Act of 1936 to rationalise the mail subsidy system. The Act dissolved the Shipping Board Merchant Fleet Corporation and created the United States Maritime Commission to study, perfect and adopt a long-range programme of replacements and additions to the American mercantile marine, so as to create an adequate and well balanced merchant fleet. The Maritime Commission was also given wide powers in the matter of regulating the future of the American shipping industry. It was also authorised to grant, substantial construction differential subsidy for the building of new vessels in America and operating differential subsidy for enabling the American citizens to run their ships in the foreign commerce of the United States. Such operating differential subsidies from 1st July 1937 to 31st October 1938 exceeded the sum of 12 million dollars. In 1937 the Commission submitted a report known as the "Economic Survey of the American Merchant Marine". According to the report of the Commission the expenditure of public funds to maintain a foreign-going fleet could be justified only on two grounds:

(1) the importance of shipping as a factor in foreign commerce; and

(2) the relationship between merchant vessels and national defence.

The survey disclosed that there were between 12 and 13 million deadweight tons of ocean-going shipping in the American merchant marine at that time. When the United States entered the war the fleet's capacity was about 11 million tons. The maritime commission had, however, inaugurated in 1937 a long range programme to build 500 vessels in the ensuing decade. This programme was first doubled during the war and was subsequently increased to build a colossal tonnage of ships in the States. According to the report of the Maritime Commission for the period ended June 30th, 1945, 5,377 vessels of a deadweight tonnage of over 52 million tons were constructed during the war. This unprecedented output of new ships at the cost of the State is the most powerful weapon which the United States has got in enabling its shipping to attain a dominant place in the carriage of the world trade in the future.

(iii) *Development of shipping since the war of* 1914-18:—The first great world war with its tale of sinking of ships and the plight of some of the neutral countries who depended for their supplies on foreign shipping brought home to the Governments of all important countries the supreme importance of an adequate national mercantile marine. We have outlined in the previous section the principal measures taken by some of the important maritime countries to develop merchant shipping in the inter-war period. It is true that during 1914—18 sinking of ships was on a very large scale, but the war-expanded shipbuilding industry was capable of production far exceeding normal peace-time requirements. The story of shipping in the period that followed between the signing of the Treaty of Versailles in 1919 and the German invasion of Poland in 1939 was, therefore, one of an enormous increase in world tonnage. The excess tonnage was due to three factors: the war and its consequences, the decline of world trade and nationalist shipping policies.

The world tonnage, which increased from 47 million gross tons in 1913 to 70 million tons in 1931, was not shared proportionately by the mercantile marines of the different countries. Between 1914 and 1931 increases in the British Empire fleets of 12·7 per cent compared with the United States 41·5 per cent,

Japan 155 per cent, Italy 150 per cent, the Netherlands 107 per cent, Norway 105 per cent and France 84 per cent. The high figure for the United States was partly due to their relatively small fleet in 1913 (700,000 gross tons) and to an inflated building programme during and after World War I.

The second great world war has once again proved that the issue of the sea is the most supreme issue of the war. From 1941 onwards, the cry of agony went forth from the United Nations and the Allies; they wanted ships, more ships and still more ships to win the war. The colossal production of over 35 million tons by the American ship-yards will go down in history as one of the most magnificent achievements of the American shipbuilding industry. American tonnage at the cessation of hostilities in August 1945 constituted 51 per cent of the total world tonnage as compared with her share of 13·6 per cent before the outbreak of war in 1939. According to the weekly shipping journal *'Fairplay'* dated the 5th July 1945, the American merchant fleet in mid—1945 comprised more than 2,600 'Liberty' ships, some 460 'Victory' ships, 156 C-1s, 288 C-2s, 133 C-3s and 84 C-4s, close to 650 tankers, 300 coastal vessels, 55 large combination and special types capable of entering or being converted to commercial use.

America produced these ships at a time of vital urgency and the United Nations could never be too grateful for this vast aid to the war effort, but the problem of disposal of the surplus war-built American tonnage is a serious one not only for U. S. A. but for all the maritime nations of the world, for it will be sorry recompense for America's wonderful contribution to the means of victory if the oceans of the world were swamped with tonnage which cannot earn remunerative rates and which would depress the shipping industry for years to come. We will revert to this problem later; here we only wish to record the tremendous growth of the American merchant fleet during the war of 1939-45.

Appendix IV shows the world tonnage as in 1939 and 1945. The 1945 figures for United Kingdom include the tonnage of British Dominions and Colonies and if these figures are broken down to show separately the tonnage built in Canada and Australia during the war, the striking achievements of the shipbuilding industry in these two Dominions could be noticed. As a result of Canada's production during World War II, the Dominion has emerged with the greatest fleet of ships in her history, ranking third in the list of the principal maritime countries of the world. Her war-built tonnage of about 3 million tons constitutes 2·7 per cent of world tonnage as compared with America's 51 per cent and United Kingdom and Colonies' 19 per cent. It is of interest to note that before 1940 shipbuilding in Canada had languished in the doldrums for about 20 years. There were only a handful of yards from coast to coast, employing a few thousand hands. Their work was uncertain; most of the time they did repairs only. During the depression period that followed the year 1930, and upto the commencement of the second World War in 1939, the shipyards of the Dominion built but 14 steamers, exceeding 150 ft. in length. Three of these were under Government orders and all the others were under 1,800 tons gross and for lake and river trades. Throughout this gloomy interval, in an effort to maintain their equipment, cover overhead charges and keep their key men employed, a number of the yards developed business in the industrial field. But while the facilities and mechanical staffs of a shipyard can be partially diverted into other branches of engineering, its true vocation is that of building ships, and without a sufficiency of contracts in that particular field, the engineers and skilled workers are in danger of losing their faculty in the art, together with the familiarity necessary to the peculiar craftsmanship required in first class ship construction. With the grass growing in the launching-ways of most Canadian shipyards the Second Great War broke upon the world and conditions changed radically. At the end of hostilities in 1945.

there were in Canada 25 major and 65 minor yards, employing about 75,000 men and women. Components were built in another 300 yards. Out of nearly four million tons turned out, nearly two million tons remain under Canadian ownership.

Australia's achievements during the war of 1939-45 have also been great. Naval shipbuilding in the Dominion of Australia had to start from scratch; such an industry was virtually non-existent at the opening of the war in 1939. Manpower was short and there was also the handicap that Australia was the only point in the South-West Pacific where adequate repairs could be undertaken on any appreciable scale. A policy of decentralisation was of use. Vital parts for all ships were built in all Australian States, and during the war, nearly 200 vessels were built in Australia for the navy.

(We wish to add a few more words before passing on to a consideration of the attitude of the Government of India towards a national mercantile marine.

The object of this opening chapter is to provide the necessary background for a proper apprisal of the policy of the Central Government since the first world war and of the recommendations for the growth of Indian shipping which we make in the later chapters of this report. It will be clear from this and the next chapter that while the Governments of the principal maritime countries took a number of steps to build up a large and powerful merchant marine, particularly during the two decades that intervened the world wars, it is to be deeply deplored that neither did the Government of India by themselves take any step nor did they encourage the people of the country in any way either to build up a national merchant fleet or to establish a national shipbuilding industry in India. The Dominions of Canada and Australia, for example, have fully utilised the opportunity presented by World War II and in the short period of six years 1939 to 1945, they have made a very remarkable progress in the field of shipping. It is hoped that the example of these two Dominions would not be lost on the Government of India.) (Also *vide* pp. 21-22 *infra*.)

CHAPTER II

Attitude of the Government of India Towards National Shipping.

(i) *Neglected opportunities.*—It is a matter of common knowledge that ship-building was one of the important industries in ancient India and in its modern phase the industry flourished even under the East India Co. right upto the middle of the nineteenth century. In 1800, Lord Wellesley remarked "From the quantity of private tonnage now at command in the port of Calcutta, from the state of perfection which the art of shipbuilding has already attained in Bengal, promising still more rapid progress and supported by abundant and increasing supplies of timber, it is certain that this port will always be able to furnish tonnage, to whatever extent it may be required, for conveying to the port of London the trade of the private British merchants of Bengal." This attitude was strongly resented by powerful interests in England. As Indian ships were more durable and more economical than British vessels, an alarm was raised that British shipbuilding was in danger. It was not the advent of the steamship about the middle of the nineteenth century, when iron and steel took the place of wood, which led, as is often alleged, to the decline of Indian shipbuilding industry. It was the acts of hostility of the British Government such as the banning of Indian ships from British waters, and of the Government of India's imposition of discriminating and crushing import duties on goods imported in Indian bottoms, that led to its decline and ultimate ruin. Indian shipbuilding industry had thus to perish so that British shipbuilding industry can flourish. When the Scindia Steam Navigation Co., Ltd., was started in 1919, the Indian shipbuilding industry was

almost extinct. Since then Indian shipping has been struggling bravely to survive and develop. Its history has been, for the National Shipping Companies, a sad story of ceaseless struggle and sacrifice; for the people of the land it is a painful chapter of bitter disappointment at the lack of response from the Government of India to their demand for stability and expansion; and for the Government of India it is a tragic tale of broken promises, unredeemed assurances and neglected opportunities.

The opportunity presented by the war of 1914-18 was of a two-fold character. In the first place, the submarine menace drove into prominence the question as to whether India could any longer rely entirely and exclusively upon foreign shipping for the carriage of her trade. Secondly, with the progressive disappearance of a large part of the world shipping and an evident shortage of tonnage, there was no reason why India should not take steps to have her own merchant fleet in any replacement programme. All that the Government of India did during the last war was the creation of a ship-building branch of the Indian Munitions Board and the borrowing of the services of an officer from the British Admiralty to examine the possibilities of shipbuilding in India. In the result, the Government of India arrived at the conclusion that the encouragement of wooden ship construction was possible during the war, but that it was not possible to make any progress during the war towards the building of steel ships. In order to encourage the building of wooden ships the Government of India provided certain indirect forms of assistance to constructing firms but that was all.

In Chapter I it has been pointed out that the general trend in the interval between the two world wars has been for Governments of the important maritime countries to intervene increasingly in the interests of their mercantile marines; national merchant fleets have been created where none existed before. We have also observed that in the thirties there was an excessive world tonnage, and the consequential low rates resulted in a reduction in tramp shipping. Tramp tonnage which stood at 22·7 million tons out of a world tonnage of 49.1 millions in 1914 fell to 22.2 millions in a total of 67.9 millions in 1933. The causes which led some of the important countries in the world to build up their own national marines have been explained. But so far as India is concerned the Government of India pursued a policy of complete inaction throughout the period 1918—1939. The tragedy of the situation was that, when the second World War broke out in 1939, Indian tonnage was less than 0.24% of the tonnage of the world. Indian public opinion, both inside and outside the Central Legislature, had demanded and was demanding with one voice the creation of a powerful Merchant Navy. It was completely ignored. Every maritime country of any importance had on grounds of national security and national economic needs had increased their own fleets. What was happening in other parts of the world was however of no concern to the Government of India. India continued to remain a glaring exception to the recognition of the responsibility of the State to develop the National Merchant Marine. It took no action. Indian shipping did not grow—could not grow.

The war of 1939/45 did not materially alter the situation on the Indian scene. The world shipping position was actually alarming in 1942/43. The Dominions of Canada and Australia performed a remarkable feat in building the ships that were urgently needed. As was pointed out in the House of Commons, "Canada between the two wars built no oceangoing ships at all; she is now building, in addition to corvettes and other protective craft, an approximately the same merchant tonnage as we in this country." While the Dominions showed an astonishing ability to adapt their industrial production to what was most needed in the war and thus built up new industries on a permanent footing, the Government of India did not do anything beyond providing certain additional facilities for carrying out ship repairs. In the year

1943 a total number of 2219 merchant ships were repaired in the different ports of India. There was an increased strain on the Railways and very much increased demand for coastal shipping for the movement of essential cargoes like coal and foodstuffs. All this, however, brought about only the imposition, in September, 1943, of a system of control through licensing of all free Indian Registered ships on the coast without any attempt to increase the Indian owned tonnage. Several countries such as France, China, Norway obtained ships from America to meet their immediate vital requirements. Even Great Britain, inspite of her great building capacity, resorted to getting ships built in America or obtained them from that country on charter to meet the emergency as it developed. But, the Government of India, despite the fact that the country was being ravaged by deadly famine and the people were dying in thousands because for want of foodgrains which could not be brought from abroad owing to lack of shipping space, went on looking helplessly at the deepening tragedy without doing anything to build, to borrow or to charter ships or to secure them under Lend-Lease arrangement.

In short, the opportunities for developing national shipping and ship-building presented during the first world war, in the inter-war period and even while the second world war was on were all neglected by the Government of India.

(ii) *Patronage to British Shipping.*—There are a number of foreign shipping companies (British and Others) operating in the trade routes of India but much the most powerful of them is the British India Steam Navigation Company. It is this company which has dominated the coastal trade of India for several decades past. It is this company, which has by its powerful financial resources and the ruthless freight wars, wiped out one Indian Shipping Company after another from the coastal waters of India. Instead of giving protection to any of the several Indian enterprises that started operations in the field of shipping during the last sixty or seventy years against this unfair and anti-national wars, the Government of India missed not a single opportunity to extend its patronage during this last century to this British Company and thus encouraged it in every way to act against the national economic interests of the country. The granting of the Royal Mail subsidy, the exclusive right of carrying Government and Railway cargo and passengers, the division of traffic between the Railways and the British Shipping Company at the cost of Indian Trade were some of the ways in which patronage was extended and monopoly was allowed to be created. We will indicate this by giving one or two examples as to how this exclusive patronage affected the development of national shipping in this country.

The Resolution moved by the Hon'ble Mr. (later Sir) Lalubhai Samaldas and accepted by the Council of State on the 15th March, 1922 was concerned with one category of patronage. Mr. Lalubhai Samaldas recommended that instructions should be issued to the Departments concerned to give Indian shipping companies an opportunity of quoting for the carriage of Government and Railway materials from any ports to India. When the Resolution was moved in the Council of State it was pointed out by the mover that the Scindia Steam Navigation Co. offered to carry coal for the Burma Railways and asked the Railway Administration that the Shipping Company should be allowed to tender. After a show of sympathy the only information the Scindias received from the Railways was that the order for the supply of coal had already been placed. Even the right of quoting the rate of freight for the carriage of coal in its own country was thus denied to a national concern.

Again, throughout the inter-war period the B.I.S.N. Co. have received subsidies from the Posts and Telegraphs Department of the Government of India for the carriage of mails. The Company have always used their monopolistic position to make the Government of India pay whatever subsidy the Company demanded. The mail contract carries with it certain other privileges as well

for the steamer flying the flag of the Royal Mail is entitled to some concessions, *e.g.*, first admission to the docks when there are other steamers waiting to be berthed and so on.

Government servants going abroad (particularly to the United Kingdom) usually travelled by the Peninsular and Oriental Steam Navigation Company which is allied to the B.I.S.N. Co. In the early thirties, when there was a depression which affected British shipping more than the others, Government were reported to have used their good offices to pursuade their servants to travel by the P. & O. Instances have also been brought to our notice as to how the non-officials going to the International Conferences have been penalised for travelling by steamers other than those of the P. & O. Co. It was thus not a question of pursuation. It was an act of compulsion.

(iii) *Strangling competition of British shipping.*—In the twenties and thirties all the Indian Companies, which were of course newly started, faced such ruthless rate-cutting and severe competition from the B.I.Co. that even some of the financially sound and well-managed Companies had to close down. No Company was secure till it had found a place in one of the Shipping Conferences (as they are called); even after admission to the Conference line, the newcomer usually submitted to the directions of the predominant partner, *i.e.*, the B.I.Co.

As the Scindia Steam Navigation Company Ltd. is the biggest of all Indian Companies, we will refer to its early experiences. The Company bought a passenger steamer S.S. "Loyalty", in India and six cargo boats in London in 1919, these latter having been brought out to India in 1920 to ply on the Indian coast. At that time, the rate for carrrying rice from Rangoon to Bombay, which serves as the basic rate upon which the rates for other Indian Ports are quoted, was Rs. 18 a ton. Upon the Scindia ships being put in the Rangoon-Bombay trade, a rate-war was begum by the B.I.Co., rates being cut only between those ports for which the Scindia Company, with its limited tonnage, attempted to provide a regular service. As months passed, the rate-war became more and more acute until the rate from Rangoon to Bombay was reduced from Rs. 18 to Rs. 6 per ton, when the operating cost was approximately Rs. 14. As a direct and cumulative result of this war, the Scindia Co. lost several lakhs of rupees, which naturally gave rise to discontent among the share-holders of the Company. They were however so keen upon keeping the Scindia Company alive as an Indian shipping concern that when indications were received from Lord Inchcape, Chairman of the B.I. and P. & O. Companies, regarding the purchase of the Scindia Co., the shareholders refused to have anything to do with the transaction which would have meant nipping in the bud the enterprise of the Company as a national concern.

India had an extensive trade in yarn with China. When the late Mr. J. N. Tata found that the rates of freight on yarn from India to China were raised so high as would make it impossible for Indians to retain the Chinese market for Indian yarn, he chartered a few boats for carrying yarn to China at reasonable rates. The P. & O. could not tolerate an Indian Company carrying cargo in India's overseas trades and started a rate-war against the Tatas by reducing the rates from Rs. 16 to Re. 1. The Indian Company could not withstand such a relentless competition. When the Company disappeared the rate was again raised from Re. 1 to Rs. 17. This enabled the P. & O. to make up for any loss it may have sustained during the rate-war started by it. British shipping thus continued to raise its edifice on the ruins of Indian shipping. Even in the coastal trade itself, low rates were adopted by the B. I. Co. to crush many Indian Shipping Companies from time to time, high monopolistic rates usually followed the disappearance of nascent concerns which tried to establish regular sailings between Indian ports.

One of the many Indian Companies, that went into liquidation was the Bengal Steam Navigation Company which, in 1905, ran its ships between Chittagong and Rangoon. As soon as this Company came into existence, the B. I. Co. rdeuced the fares for deck passengers from Rs. 12 to Rs. 6 and the freight from Rs. 14 to Rs. 4 per maund. Sweets and handkerchiefs were also freely distributed to those who patronised the B.I.S.N. The result was that this new Company struggled for five years and in 1910 it went into liquidation and disappeared from the scene. As soon as the Company was driven to the wall, the British India Company raised their fares to Rs. 14 as against Rs. 12 which was in force before the ruinous rate-war, in order to compensate themselves for the loss incurred during the rate-war. Although the story on the West Coast of India was less tragic the coast was not free from rate-wars. In the early thirties for example, the B. I. Co. indulged in cut throat competition against four small Indian Companies, the Eastern Navigation Co., the Malabar Steamship Companies, the Merchant Steam-Navigation Co. and the National Steamship Companies; the last mentioned Company has disappeared. At one time the freight from Bombay to Tuticorin was reduced by B.I. from 12 annas to 3 annas per bag.

There is one other matter to which we would like to draw attention and that is the system of deferred rebates. This system arose when shippers began to feel the necessity of regular sailings from port to port. When this demand arose the shipowner naturally asked the question what guarantee he had that, if he ran a ship periodically, he would find cargo for the voyage. The deferred rebate system supplied the solution. The underlying principle is that the shipper should have a strong incentive to transport his goods by the ships of the line or lines who have undertaken to provide regular sailings. If the freight is, say Rs. 16 a ton on a particular class of giods, the shipowner undertook to refund say 10% of the freight provided the shipper could satisfy him that he had not during a particular period shipped goods by any other line. If he was found to have done so, he forfeited his rebate. As the system has worked in the past it is extraordinarily difficult for a shipper to break away once he has committed himself to a particular line or group of lines. For example if he has shipped a particular quantity of goods in the quarter January-March and thereby entitled himself to a rebate of 10% of the freight he has paid, that rebate is not actually paid until the beginning of the July-September quarter, and he will forfeit it if during the April-June quarter he has shipped goods by other lines. As the bulk of the tonnage on the coast is owned by the B. I. Co., that Company has always been in a position to use the deferred rebate system to ensure that the shipper did not, as far as possible, ship his cargo by any of the newly formed Indian Companies, and thereby promote the latter's growth.

It might be argued that whatever may have been the effect of the deferred rebate system on Indian shipping in the early stages of the growth of the industry, Indian Shipping Companies have, after their entry into the Coastal Conference, been protected by conference rebates from competition of foreign owned vessels. Be that as it may, we feel that a deferred rebate system is bad in principle and that the administration should have the necessary powers to control the same.*

*Mr. Radcliffe is not prepared to discuss the question as to whether a deferred rebate system in principle is good or bad but considers that it should be made clear that while there has been no Government regulation regarding tonnage running on the Indian coast, some form of rebate system has been necessary to protect the lines (who themselves have come together in various conferences and agreements, *e.g.*, Tripartite Agreement and the Bhore Award) from intrusion of outside tonnage. He is of the opinion that it must be admitted that rebates have assisted Indian shipping up to date rather than the reverse. It should be noted that the following Indian Shipping Cos. are included in the present rebate form used by the Indian Coastal Conference, *viz.*, Scindia S. N. Co., Eastern Steam, Malabar Steam, Merchant Steam, National Steam and Bombay Steam.

Although these practices were constantly brought to the notice of the Government of India by the legislators, they did not resort to any legislation to prevent this unhealthy and ruinous competition. The principle of the Coastal Reservation Bill introduced by Mr. Haji in the Central Legislative Assembly was accepted by an overwhelming majority in 1928 and the Bill was examined by a Select Committee in 1929. In September 1929 when the report of the Select Committee was to come up before the Central Legislative Assembly for its consideration Sir George Rainy made the following statement on the floor of the house:—

> "It is the earnest hope of the Goverument of India that as stated by His Excellency, a solution of this difficult question may be found in a spirit of co-operation and goodwill, and they would be reluctant to proceed upon other lines, until it was clear that there was no hope of an amicable settlement. They have therefore decided to bring the matter specially to His Excellency Lord Irwin's attention on his return to India in the hope that a full and frank discussion between the representatives of all the interests affected might lead to mutual understanding and agreement and that the good offices of Government might contribute to a solution of the question of an adequate participation of Indian shipping in the coastal and overseas trade of India.
>
> "The possibility that an agreed settlement might in the end prove impossible must, of course, be faced. In that case, a situation would be created which Government could not ignore, and it would be necessary to explore fully the question by what means the obstacles in the way of the development of Indian shipping could be removed. In particular, the possibility of preventing the ruinous rate-wars which from time to time break out upon the coast and the desirability of legislation to bring under control the system of deferred rebates and other trade practices which tend to restrict the freedom of the shipper would have to be examined, and also the question of how far direct financial assistance by Government to Indian shipping could justifiably be given. These questions are full of difficulty, and the final outcome cannot now be predicted but Government would be ready to set on foot the necessary enquiries directed towards the development of an Indian Mercantile Marine."

A Shipping Conference of the Indian and the British Shipping Interests was held in January 1930 under the Chairmanship of Lord Irwin, the then Viceroy of India. It is well known that in view of the unhelpful attitude of the British Shipping Interests, no effective policy of co-operation could be evolved at that Conference. That Conference was a failure. Although the Government of India announced at the close of the Conference that it would be their responsibility to ensure an adequate participation of Indian Shipping in India's coastal and overseas trades they did nothing to build up an adequate Indian Merchant Navy in the years that followed. The Government of India had realised that "an agreed settlement might in the end prove impossible" and had promised that in that eventuality "it would be necessary to explore fully the question by what means the obstacles in the way of the development of Indian shipping could be removed." It is, however, a tragedy, that despite all their promises and assurances and despite constant reminders, both inside and outside the Central Legislature, for taking effective action to develop national shipping neither did the Government of India explore the other possibilities such as financial help nor did they take other active steps for the establishment of an adequate Merchant Navy for India. It is sad to reflect that even after the announcement of their own responsibility, the Government of India continued

to look with the same unconcern as before at the domination and further consolidation of British shipping in India's maritime trades at the cost of real India's national economic interests.

We do not suggest that the B. I. Co. is worse than others, or that any other Company in the same position would have acted differently. We only wish to point out that owing to the powerful position of the British Company and the utter indifference of the Government of India to give Indian shipping the protection that it urgently needed, it was able to decide whether any Indian steamships shall ply for traffic at all on any route and that it was within the B. I.'s power at any time to force them into liquidation and bankruptcy. To a certain extent, it is a consideration of the past practices of the B. I. S. N. which has made us strongly recommend elsewhere in our report that the Indian Shipping Board, which would licence vessels for purposes of the coastal trade. should also be vested with powers to control rate-wars, deferred rebates and other ruinous forms of cut throat competition.

(iv) *Indian shipping in Central Legislature.*—Ever since the war of 1914—18 India has demanded with one voice that Indian shipping should have its legitimate share in the coastal and overseas trades of the country and that we should build up a national mercantile marine worthy of the country's ancient position in the maritime world. The demand has been persistent since the last Great War and the appointment by the Government of India of the Indian Mercantile Marine Committee in February 1923 and the report submitted by that Committee in March 1924 clearly reflect the consensus of Indian opinion in the matter during the last 25 years. That Committee recommended provision for the education and training of young Indians for sea life and the development of an Indian mercantile marine which would naturally absorb the trained Indian deck officers and marine engineers. The Committee considered at length the question of developing an Indian Mercantile Marine and recommended various measures calculated to facilitate the establishment of the same. Among other things they recommended the reservation of the coasting trade to Indian shipping and a system of licensing ships to be allowed to ply along the coast of India. All this is however old story, and we only wish to state here that the Indian feeling, both inside and outside the Legislature, has always been strongly in favour of promoting national shipping befitting the country's status and trade relations with the rest of the world.

A brief summary of the action taken by the Central Legislature in the matter of promoting Indian shipping will be of use, for the activity of the Members of both houses of Legislature can be taken as an index of the feeling in the country during the last 25 years. We will refer only to some of the outstanding discussions in the Central Legislature.

24th September 1918—

The following resolution was moved by the Hon'ble Rao Bahadur B. N. Sarma in the Legislative Council on the 24th September, 1918 and accepted:—

> "That this Council recommends to the Governor-General in Council that as soon as circumstances permit the Government should consider in what way the industry of ship-building can best be encouraged in India."

12th January 1922—

In the Legislative Assembly Sir P. S. Sivaswamy Aiyar moved a resolution to investigate the possibilities and the ways and means of promoting the formation of a mercantile marine and the encouragement of ship-building. The

following is the form in which the resolution was finally adopted by the Assembly without division:—

"This Assembly recommends to the Governor-General in Council that a Committee including experts and non-official Indians be appointed to consider what measures can usefully be taken:—

(i) for the liberal recruitment of Indians as Deck or Executive Officers and Engineers in the Royal Indian Marine;

(ii) for the establishment of a Nautical College in Indian waters for the purpose of training Executive Officers and Engineers of ships;

(iii) for ensuring the entertainment of Indian apprentices for training as such Officers and Engineers in the ships owned by shipping firms that enjoy any subsidy or other benefits from Government on any account, and for the creation of an adequate number of State scholarships for providing instruction in the Nautical College and training ships in England pending the formation of a Nautical College in India;

(iv) for the encouragement of ship-building and of an Indian mercantile marine by a system of bounties, subsidies and such other measures as have been adopted in Japan;

(v) for the acquisition of training ships by gift from the Imperial Government or otherwise; and

(vi) for the construction of the necessary dock-yards and engineering workshops in one or more ports."

15th March 1922—

The following resolution moved by the Hon'ble Mr. Lalubhai Samaldas in the Council of State on the 15th March 1922 was adopted:—

"This Council recommends to the Governor-General in Council to issue instructions in the Departments concerned to give Indian Shipping Companies an opportunity of quoting for the carriage of Government and Railway materials from any ports to India and to give them preference if their quotation is approximate to that of other Companies."

16th March 1922—

The Hon'ble Mr. Lalubhai Samaldas moved the following resolution on Ship-building Industry in the Council of State on the 16th March, 1922. The Resolution was adopted:—

"This Council recommends to the Governor-General in Council to appoint a Committee of Officials and Non-Officials to consider the best means of helping the ship-building industry in this country and to make recommendations regarding the same."

19th March 1926—

The following is the text of a resolution moved by Sir P. S. Sivaswamy Aiyar in the Legislative Assembly on the 19th March, 1926:—

"This Assembly recommends to the Governor-General in Council that he will be pleased:

(a) to recognize the need for the training of Indians for nautical careers and encouraging the creation of an Indian Mercantile Marine;

(b) to accept the policy and measures recommended by the Indian Mercantile Marine Committee;

(c) to take early steps for the training of Indians in a suitable training ship in Indian waters, for the provision of facilities for their further training as apprentices in mercantile marine ships, and for their employment after completion of training;

(d) to arrange for the establishment of primary nautical school in selected maritime stations and the introduction of Marine Engineering as a subject of instruction in the Engineering College at Sidpur;

(e) to announce his intention to adopt in the near future a system of licensing in respect of the coastal trade of India."

The Hon'ble Sir Charles Innes, Commerce Member moved an amendment which ran as follows:—

"That the debate on all subjects covered by the resolution except the proposed training ship be adjourned till the next session and that as regards the training ship, the Assembly recommends to the Governor-General in Council that the scheme for establishment in Indian waters of a training ship for deck officers should be accepted in principle."

Sir P. S. Sivaswamy Aiyar's resolution was adopted as amended by Sir Charles Innes.

9th February 1928—

Mr. S. N. Haji introduced in the Legislative Assembly a Bill to reserve the coastal traffic of India to Indian vessels. Similar Bills for the reservation of the coastal trade were brought before the Central Legislature from time to time but we need mention only Mr. Haji's Bill as most of the controversies in respect of the reservation of the coastal trade centred round this Bill. The Bill was first circulated for opinion but then referred to a Sub-Committee. On its emergence from the Sub-Committee Mr. Haji's Bill was recirculated for opinion. but, by the time the opinions were received Mr. Haji had resigned and the Bill lapsed later on owing to the dissolution of the Assembly

7th September 1932—

Dr. Ziauddin Ahmad moved the following resolution in the Legislative Assembly. The resolution was adopted:—

"This Assembly recommends to the Governor-General in Council to take the necessary steps for the purpose of fixing the minimum rate for the passenger carrying trades by sea between coastal ports of India."

7th March 1935—

The following resolution was moved in the Council of State by the Hon'ble Raj Bahadur Lala Jagdish Prasad:—

"This Council recommends to the Governor-General in Council to take suitable steps to build up an Indian Mercantile Marine at an early date with a view to an adequate participation of Indian shipping in the coastal and overseas trades of India.

The motion was adopted without division.

23rd March 1939—

The Hon'ble Mr. P. N. Sapru moved the following resolution in the Council of State:—

"This Council recommends to the Governor-General in Council to take more active steps for the expansion and protection of the Indian Mercantile Marine."

The motion was adopted without division.

(v) *Central Government's policy since* 1918.—In order to enable a just appreciation of the lack of enthusiasm on the part of the Government of India in the matter of promoting national shipping we should trace the history of the Central Government's attempts to foster the growth of Indian shipping against the background of a universal demand for national mercantile marine.

After World War I the first land mark was the appointment of the Indian Mercantile Marine Committee by the Government of India on the third February 1923 in response to a Resolution moved by Sir P. S. Sivaswamy Aiyar in the Indian Legislative Assembly and adopted by that body on the 12th January 1923. The terms of reference to the Committee and a summary of its recommendations are given in Appendix I. In pursuance of the Committee's recommendations the Government of India established the training ship "Dufferin" in 1927 so as to enable Indian ships in course of time to be manned by Indian deck officers and engineers. Arrangements were made in 1927 for the training of Executive Officers and since 1st January 1935 Marine Engineers are also being trained there. The other recommendations of the Committee, one of the most important of which was the reservation of coastal trade to Indian shipping were not accepted by the Government of India.

Attempts made by new Indian Shipping Companies since 1920 to run ships or the coast and elsewhere had met with disaster due to severe and relentless competition from the established British Lines. These failures and the recommendations of the Indian Mercantile Marine Committee gave rise to public demand for the development of national shipping and as we have already pointed out, a number of non-official bills were brought before the Central Legislature for promoting the growth of Indian shipping. Some of them aimed at the reservation of the coastal trade while the other non-official attempts tried to do away with the deferred rebate system. Of all these attempts by the non-official members of the Central Legislature to legislate for Indian shipping we have already made mention of the most important, namely, Mr. S. N. Haji's Bill for the reservation of Indian coastal trade.

The next important stage in the Central Government's policy towards national shipping was the conference held in January 1930 under the presidency of the then Viceroy of India, Lord Irwin. It was Mr. S. N. Haji's Coastal Trade Reservation Bill which prompted the Government of India to convene a conference at the highest level. It is pertinent to quote here what Lord Irwin said in December 1928 addressing the annual meeting of the Associated Chambers of Commerce. The then Viceroy said:—

> "But I think that I am correct in saying that the main impulse behind the Bill I have referred to is not a mere desire to secure for Indian capitalists the profits which now are made by British companies. Rather it is an ambition—and who shall say that it is an unworthy ambition—that India should have its own mercantile marine and that the ships of that mercantile marine should be officered as well as manned by Indians....."

The above is typical of the many statements which the Government of India made from time to time in regard to the question of building up of an adequate national mercantile marine. The words of Government spokesmen were not followed by action, however. The object of the 1930 Conference was to enable a full and frank discussion between the representatives of all the interests concerned with a view to contributing towards a solution for the adequate participation of Indian shipping in the coastal and overseas trade of India and securing, if possible, an agreed settlement. One of the fundamental propositions laid down on the agenda for consideration at the Conference was "can it be provided for under an agreement by which the Indian tonnage would increase gradually from year to year, while simultaneously the non-Indian

tonnage was reduced?" During the course of discussion it emerged that the Indian tonnage might be increased by the purchase of British ships in the trade. While the Indian side was not averse to consider the method of purchase on its own merits for the expansion of Indian shipping the British side insisted that such a purchase could not only be the purchase of the ships but it should also be the purchase of the goodwill as well of the trade. Replacement of British tonnage by Indian tonnage as one of the methods of developing Indian shipping was however not acceptable to the British side. The fundamental objective of the Conference could not therefore be achieved. As no agreement could be reached between the different shipping interests, the Conference broke up. As already stated before the Conference failed to achieve the object for which it was called. The Government of India then explained their position in the Communiqué reproduced below:—

> "The Government of India will take into consideration at an early date the issues raised in the discussions which took place at the Conference on the development of the Indian Mercantile Marine. As soon as it has been possible fully to consider these issues, the responsibility will rest with the Government of India of deciding what action should now be taken and whether any useful purpose would be served by inviting the interests concerned to meet again."

We have already stated that the main obstacle to the development of an Indian Mercantile Marine is the dominant position which the British India Steam Navigation Company has established for itself on the coast of India and on all the shipping routes of the Indian ocean, and the utter indifference and unconcern of the Government of India to protect Indian shipping from the relentless and powerful opposition. It would however be recognised that it was the responsibility of the Government of India who should have taken effective steps to protect Indian shipping companies from these ruinous rate-wars. Apart from the training of the deck officers and marine engineers in the "Dufferin", the Government of India were not yet committed to any particular method of encouraging the growth of national shipping although they have declared time and again that they were in full sympathy with the widespread desire that India should possess a merchant fleet of her own. Even when the agreement between the B. I. and the Scindia was revised in 1933 under the good offices of the then Commerce Member Sir Joseph Bhore, the Government of India, despite its assurance that it was their responsibility to secure an adequate participation for Indian shipping in India's overseas trades, remained utterly helpless when the B. I. insisted as the price of a new agreement, the practical exclusion of the Scindia Co., from the carriage of India's overseas trades. The Tripartite agreement was signed between the B. I., the Scindia and the Asiatic companies. It came into force on the 1st April 1934. Once again Indian shipping was confined to India's coastal waters only. The following are the principal provisions of this Agreement:—

Tripartite Agreement, 1934

(1) "The cargo carried by the vessels of the three Companies in the coasting trade of India, Burma and Ceylon is to be regulated and apportioned between them according to certain specified percentages.

(2) The Scindia Company have been permitted to carry passengers on the Rangoon-Coromandel Coast and the Rangoon-Chittagong runs.

(3) The total gross tonnage of the Scindia Company (owned or chartered) has been raised to 100,000 gross tons.

(4) The rates of freight for the carriage of cargo and the scales of passenger fares are to be jointly fixed in writing by the parties after

mutual consultation and consent, and none of the parties is to quote or charge rates less than the rates thus fixed.

(5) In the event of any dispute or difference the matter is to be decided by arbitration.

In a subsidiary letter addressed by the Scindia Company to the British India Company at the time of the conclusion of the Agreement they have also agreed to respect the P. & O. Company's and the B. I. Company's foreign (overseas) trade and not to compete with them in those services."

Sir Thomas Stewart, who was Commerce Secretary in 1935, declared Government's policy in the Council of State on the 7th March 1935. He said:

"The policy to be pursued has been the subject of much thought by the Government of India and after much thought they have come to the conclusion,—they came to the conclusion some years ago,—that the best hope for the sound, economic, strong establishment of an Indian mercantile marine lay in the development of co-operation and a spirit of mutual accommodation between the various interests operating on the coasts."

Although the policy of co-operation had failed in 1930 and although despite the universal demand in the country to explore other methods of developing Indian shipping as promised by the Government in 1929, they had done nothing in that direction during the intervening years, it is a pity that Government persisted once again in asking Indian shipping interests to rely on that very policy of co-operation to which there was no response from the British side. It would compel even the friends of the Government to admit that Government cannot learn a new thing and cannot forget an old one.

The Tripartite agreement which came into operation in 1934 was to be revised in 1939. Indian shipping interests tried their best to do so both in England and in India. Inspite of continuous requests from Indian interests, for the last seven years, to help them with their good offices in the revision of this agreement, Government have not done anything to do so. That agreement, which was to have expired in 1939, therefore still settles the fate of several Indian Shipping Companies.

We have already pointed out that there was no effective co-operation between the British and Indian interests and that the Government of India did not explore other possibilities of developing Indian Mercantile Marine. During the inter-war period there was also the problem of protecting the interests of small Indian Companies operating in the coasts. As a result of the intervention of the then Commerce Member Sir Joseph Bhore, an agreement was reached by which 85 per cent. of the coastal trade in certain areas (West Coast Trade) was reserved for the small shipping Companies operating there. The period of currency of the West Coast Award was to be coterminous with the Tripartite Agreement of 1934.

A reference may also be made here to the Government of India's attitude to foreign (Non-British) shipping. During 1934-35 a few cases were brought to their notice in which Japanese ships carried cargo between Indian ports. On receipt of protests from the coastal conference against such intrusion, the Government of India arranged for suitable representations to be made by His Majesty's Government to the Japanese Government through diplomatic channels. Subsequently the Government of India stated that while they did not accept the policy of reservation of coastal trades to Indian shipping, they were prepared to take all action in their power to resist intrusion of foreign (Non-British) shipping in those trades.

It is not unfair to say that apart from the provision of the training ship "Dufferin" and the expression of hope for the development of an adequate

Indian Merchant Fleet by co-operation and a spirit of mutual accommodation between the various interests concerned, the Government of India have more or less been pursuing a policy of indifference during the last 25 years. The "Post-War Shipping Policy" laid down in the Second Report on Reconstruction Planning issued in 1945 would, however, appear to herald the beginning of a change in the general attitude of the Government of India towards Indian shipping. Para. 2 of this statement reads:

> "The vulnerability of India's position has been revealed by the stress of wartime conditions but by no circumstances more glaringly than by her inability to find adequate shipping from her own resources to provide for the transport of the food supplies required by her. The rectification of this state of affairs should be one of the immediate post-war objectives not only for commercial reasons but also because the development of the Royal Indian Navy necessarily implies concurrent development of the merchant navy."

This strikes a note very different from what the Hon'ble Sir Charles Innes stated in the Legislative Assembly on the 19th March 1926:

> . . . in time of war they might want their own mercantile marine to feed their people and because they wanted that marine as a second line to their own navy. All I need say on that point is this, that India is fortunate in that that over-mastering necessity is not present in this country. India's shores are protected for her by the British Navy, and in time of war she can always rely upon the British Navy so long as the British Navy commands the seas to protect her communications and her trade".

We do hope that the fundamental change in the attitude expressed in the Second Report on Reconstruction Planning will be taken to its logical conclusion and that our recommendations in the following pages for the adequate participation of Indian shipping in the coastal and overseas trades of the country will be given effect to as expeditiously as possible.

(vi) *Shipping in the Dominions.*—In Chapter I, we have given a brief indication of how the tonnage of the Dominions of Canada and Australia was increased during the second world war. We refer below in somewhat greater detail to the development of national shipping in the important Dominions of the British Empire.

Canada.—The outbreak of the war in 1939 brought into prominence the difficulties in which Canada became involved by reason of her dependence upon the ships of foreign countries for ocean transportation. With a view to ensuring the best utilisation of the available fleet, a system of control and licences, administered by the Canadian Shipping Board, was introduced in December 1939. In 1941 the Board found it necessary to recommend an extensive merchant marine building programme, and as a result of this, the Canadian ship-building industry, which was dormant for more than 20 years before 1939, has been extensively developed through a Crown Co., known as the Wartime Merchant Shipping Ltd. Some of the newly built vessels have been disposed of to the United States, some others turned over to the United Kingdom under Canadian Mutual Aid, while the remaining have been retained for operation under the Canadian Navy. It is estimated that the approximate tonnage now at the disposal of Canada is about 3 million tons deadweight. The Canadian ship-building interests have been pressing the Canadian Government for an all-out policy to maintain a well-equipped national merchant fleet and it is the feeling of the Canadian Government that no possible trade routes to and from Canada are to be left unprovided for either directly or indirectly. A national shipping policy is envisaged whereby the Canadian shipowner engaged in foreign trade in and

out of Canadian ports will be encouraged by all possible means including subsidies if necessary.

Union of South Africa:—The entire shipping requirements of South Africa for her overseas trade have been provided in the past by non-national lines of which the share of the British Lines was 60 per cent. The coastal trade was of the order of approximately 320 thousand tons per annum, and was catered for more or less in equal shares by coasters of the South African register and ocean going vessels. Since 1919 the South African Railways and Harbour Administration have been operating three vessels on their own account. In 1941 a Commission was appointed to investigate and report upon various matters affecting the Union Government's shipping services and their post-war development. The Commission have submitted an interim report and indicated that some of their recommendations may have to be modified in the light of the shipping situation obtaining at the end of the war. The Principal recommendations of the Commission are as follows:—

(1) The small Government fleet should continue to be maintained but it would be inadvisable to enlarge it or attempt to run State-owned ships in the overseas trade.

The Commission are of the opinion that the shipping services provided by overseas shipowners have been remarkably good and that the Union's dependence on foreign-owned ships has not reacted unfavourably in respect of employment of Union nationals on such ships. They have, however, admitted the strength of national sentiment and suggested that benefits would accrue to both the Union of South Africa and U. K. if a certain number of the ships employed in the South African trade were to be placed on the Union register.

(2) The Commission felt that it was un-economic to reserve the entire coastal trade to the South African Flag.

The Commission are against affording special preferential treatment to Union ships on the South African register, for the reason that such a treatment would bring only minor benefits to Union shipowners and would irritate and antagonise owners of foreign ships. Nevertheless the Minister for Railways and Harbours has stated that the Union cannot be left entirely dependent on overseas shipping services and that South Africa's own fleet will have to be strengthened. There is at present no legislation dealing with coastal trade but the question of legislation on the subject is under the consideration of the Union Government.

Australia.—The Commonwealth of Australia are considering the desirability of establishing an overseas shipping line owned in and operated from Australia. The Federal Cabinet is also reported to have decided that the Australian inter-state coastal trade will be reserved to Australian-built ships and that the Australian Ship-building Board be re-constituted by statute to control the rate of merchant ship construction which will aim at 32 thousand tons gross annually. The aim of the Commonwealth Government is to create a single authority to control shipping and ship-building. The authority will be responsible for ensuring that the annual target tonnage is attained and that the freight and charter rates, fares, etc., for inter-state trade are subject to Government approval.

(vii) *Present position of Indian National Shipping*.—In spite of the strangling competition of British shipping and the absence of an active policy on the part of the Government of India to encourage the formation and growth of a strong national fleet it is surprising that private enterprise in this country has during the last two decades succeeded in building up a merchant marine of 13 lakh tons. We give below the distribution of this small Indian tonnage.

*Number and tonnage of Indian ships in 1946**

Name of the Company	No. of ships	G. R. T.
(1) The Scindia S. N. Co., Ltd.	16	75,248
(2) The Mogul Line, Ltd.	6	26,545
(3) The Bombay S. N. Co., Ltd.	13	11,200
(4) The Bengal Burma S. N. Co., Ltd.	3	5,209
(5) The Merchant Steam Navigation Co., Ltd.	2	2,183
(6) The Eastern Steam Navigation Co., Ltd.	2	2,144
(7) The Indian Co-op. N. & T., Co., Ltd.	3	1,297
(8) Kalmarsund S. N. Co., Ltd.	1	1,158
(9) The Malabar Steamship Co., Ltd.	1	857
(10) Shree Ambica Steam Nav. Co., Ltd.	1	751
(11) The Ratnagiri Steam Nav. Co., Ltd.	1	590
Total	49	1,27,083

The Indian tonnage is so small that we have not included it in the statement in Appendix IV showing world tonnage in 1939 and 1945. The statement is revealing as to the wartime development of U.S.A. and Canada. U.S.A. now owns 51 per cent. of the world tonnage as against 10.6 per cent. before the outbreak of the second world war. This remarkable performance of the U.S.A. proves that there is no limit in regard to what a shipping policy could achieve if it is pursued in the interest of the nation. It will be seen from the statement that just before the outbreak of the war in 1939 U.K. owned 27.3 per cent. of the world tonnage while her share of the world trade was 13.8 per cent. only. The tonnage of most of the important maritime countries was proportionately more than their contribution to world trade; these countries supply the tonnage required to carry the trades of some of the other countries as well. For example, the share of Greece in world trade was 0.5 per cent. but her shipping constituted 2.7 per cent. of the world tonnage. Again, the Italian and Japanese shares of the tonnage were 5.2 per cent. and 8.6 per cent. while their shares in world trade amounted respectively to 2.4 per cent. and 3.2 per cent. only. On the other hand, India's shares of the world tonnage was less than 0.24 per cent. but her exports and imports amounted to nearly 3 per cent. of the total world trade.

We have in the preceding pages given ample proof, if proof were needed, of the disproportionately small share of India in world tonnage; we have also tried to illustrate how a deliberate policy of State aid has enabled countries like Italy and Japan to increase their tonnage rapidly. If, notwithstanding the Government of India's patronage to British shipping and neglect of opportunities to foster the growth of Indian shipping, Indian private enterprise could succeed in keeping alive the infant shipping industry we are confident that an earnest pursuit of the policy which we lay down in the later pages would result in a substantial improvement of the position in a short period, thereby enabling Indian ships to play a sufficiently large part in the carriage of the country's maritime trades.

*Since the above figures were collected it has been brought to our notice that the Scindia and its associated companies have bought or are building ships, the approximate gross tonnage of which will be about a lakh of tons and the India Steam Navigation Company has purchased 8 ships of approximately 60,000 tons gross. The Bharat Steam Company and the Malabar Steam Navigation Company have acquired six ships of 23,219 gross tons.

CHAPTER III

What should India do to Develop her National Shipping

(1) *Need for a National Shipping Policy.*—We reproduce below the Government of India's statement on "Post-war Shipping Policy" issued as part of the Second Report on the Reconstruction Planning.

"For a country of its size, the length of its coast line and its strategic position athwart one of the world's main sea routes, India possesses a distressingly small number of deep sea-ships, which at the outbreak of war stood at no more than 30 with a total of less than 150,000 tons gross. India's weakness in this respect has long been recognised, and the Government of India are pledged to a policy of assisting in the development of an Indian mercantile marine. So far, however, the action taken to implement this undertaking has been limited to the establishment of the "Dufferin" for the training of executive officers, the provision of special facilities for the training of marine engineers and to using Government's good offices to promote a settlement between the Indian and British companies operating on the coast with regard to the division of the available trade between them.

The vulnerability of India's position has been revealed by the stress of war time conditions, but by no circumstance more glaringly than by her inability to find adequate shipping from her own resources to provide for the transport of the food supplies required by her. The rectification of this state of affairs should be one of the immediate post-war objectives, not only for commercial reason but also because the development of the Royal Indian Navy necessarily implies the concurrent development of the merchant navy.

The acquisition of an adequate share in the world's carrying trade should be the aim of our post-war shipping policy, and to this end steps should be taken to secure for Indian shipping—

(i) an increased share of the coastal trade, including trade with Ceylon and Burma (The present share is estimated at between 20—30 per cent.);

(ii) a substantial share in the near trades, *e.g.*, Persian Gulf, East Africa, Malaya and Dutch East Indies;

(iii) a fair share in the Eastern trades, especially those trades of which Japanese shipping will have been dispossessed;

(iv) a fair share also in the trade between India, on the one hand, and the U.K., the Continent of Europe and North America on the other; and

(v) in order to give maximum relief to the railways, a number of steps have been taken to ensure the fullest utilisation of country craft and to prevent wasteful competition between country craft and steamers. As India may have to look to all forms of transport to sustain her economy in the post-war era, the continued development of country craft will have to be considered. Co-ordination of steamer and country craft services is an essential part of this development, subject to due regard being paid to the different needs served by steamers and country craft.'

Although the above policy is not as decisive, dynamic and heartening as that laid down by the United States of America and Great Britain for their own shipping, we are glad to note a welcome change in their approach, namely the Government of India's recognition of their responsibility for the development of Indian shipping. Indian shipping has, however, to make a considerable leeway to attain her due and proper place in the shipping of the world. We would, therefore, most strongly recommend that India should immediately formulate a national shipping policy similar to that adopted by

the important maritime countries of the world, such as England and America. The uncompromising national outlook, the full appraisement of the requirements of trade, the impelling needs of defence and security and the complete realisation of the obligation of the State to render assistance to its own shipping have been responsible for the growth of Merchant Navies during the inter-war period in all important maritime countries, chiefly in the U.S.A., U.K., Germany and Japan. This has already been described in Chapter I.

We have also summarised very briefly the shipping position of the important British Dominions during the second World War and how the post-war shipping policy of those Dominions is likely to work. The manner in which the important maritime countries of the world have, as narrated by us, developed their national shipping will, we are sure, awaken the Government of India to a livelier and keener sense of their responsibility for building up a powerful Indian Merchant Navy and stir them to take early and effective steps to supply this vital need of India.

But, before we indicate the first steps that can be usefully taken to implement the national policy for building up a merchant navy in India, we consider it our duty to draw attention to a problem of supreme importance which is likely to materially affect the strength and working of national fleets of the maritime countries of the world. The huge losses of shipping sustained by the Allies, and particularly by Great Britain, during the war and the colossal output of over 52 million deadweight tons of shipping by the United States of America during that period have naturally upset the balance of ownership of world tonnage. While the tonnage of world went up from 49 million tons gross in 1914 to 69 million tons gross in 1939, it rose to nearly 80 million tons gross at the end of the war in 1945. America dominates today the world of shipping by the huge tonnage that she possesses. The large surplus tonnage of America has, therefore, been a matter of serious concern to other maritime countries of the world. Even the highly developed British shipping industry, with most powerful resources at its command, in giving expression to its concern in this regard, during a statement on British shipping policy, issued in 1944, remarked:

> "Unless and until a policy for the effective disposal of surplus tonnage is determined, there can be no post-war future for British shipping and, therefore, no policy for its reconstruction and maintenance."

The world was, therefore, awaiting with anxious interest the announcement by the United States of their policy regarding the disposal of their surplus ships. The Bill for the disposal of surplus American ships has now become an Act. Upto September last over 453 ships were sold to the different non-American shipping interests against a demand for 1181 and more are likely to be sold hereafter. In addition to this, the Act lays down that the Maritime Commission 'shall place in a national defence reserve such vessels owned by it as after consultation with the Secretary of War and the Secretary of the Navy it deems, should be retained for the national defence.' According to the latest statement of the Maritime Commission, 1284 ships were placed in the Reserve Fleet at the end of September 1946. Responsible authorities in America have indicated that nearly 20 million tons deadweight of shipping will be laid up in sanctuary as national defence reserve. This large sterilisation of a substantial proportion of U.S. surplus ships, when it actually takes place, will provide some relief to the maritime countries in the economic working of their post-war shipping policy.

It must not, however, be forgotten that whatever by the strength of the existing tonnage of the world and howsoever essential it may be in the interests of all concerned for the United States to lay up as a national defence reserve a substantial portion of her surplus ships, the United Kingdom has kept all

their shipyards working and has been building a very large number of ships, although some of them are for foreign owners. The total tonnage of merchant ships launched in U.K. in 1945 was 898,000 tons gross. The tonnage which is being built in U.K. yards today is over 17 lakhs of tons. It is far in excess of the tonnage which was under construction in fairly good years; over a million tons in 1938 and a little over 900,000 tons in 1937. International trade has not expanded and is not likely to expand with such rapidity as might enable it to keep the huge tonnage that will be available in the world fully in commission when the needs of repatriation and rehabilitation of the ravaged countries of the world have been met with and shipping has to work under normal conditions.

While the tonnage in the world today is, therefore, far in excess of the needs and requirements of International trade, both the United Kingdom and the United States are determined to maintain and expand their shipping to the largest extent possible. His Majesty's Government have made it clear that Great Britain "must continue to serve the world with a large and efficient mercantile marine". The word "must" is fundamental. On the other hand, Vice-Admiral Emery Land has repeated on several occasions America's determination to carry at least 50 per cent. of her overseas trade in her own bottoms. In a nation-wide broadcast he re-affirmed last year his belief "that a post-war merchant fleet of 17 million tons was essential for the military security and trade prosperity of the United States." This would mean that more than 150 per cent. of the pre-war tonnage will fly the American flag on the oceans of the world. When that policy was criticised by the British interests and others, a leading official of the Maritime Commission remarked:

> "If American ships can provide a service that obtain half of the traffic as an average over all routes where American commerce moves, such a share of the business can hardly be deemed unreasonable or be the basis for a charge that America is encroaching on some holy ground that is the peculiar heritage of any particular nation."

Thus both England and America are determined to increase their shipping strength and make a bid to carry a far larger proportion than their pre-war share of the world trade. The proposal made by Great Britain to call a meeting of the International Shipping Conference "to discuss the future organisation of shipping on a basis of private enterprise and free competition subject to reasonable agreement to keep freights on an economic level and the supply of tonnage adjusted to meet demand, both of which are a necessary condition for the avoidance of future depressions in both shipping and shipbuilding" arises out of her anxiety to ensure that British shipping continues to maintain her supreme position in the carrying trade of the world. This will be quite clear from the fact that when America announced her desire to carry 50 per cent. of her own trade in her own national bottoms and when the proposal for convening an International Conference for the purpose of a more equitable distribution of the tonnage among the maritime countries of the world was being discussed at an international level, British interests were alarmed and their spokesman, Mr. Hill, General Manager of the Chamber of Shipping, observed in April last that:

> "Were there any suggestion to allocate world tonnage according to trade or population, the major maritime countries of Europe, ourselves, Norway and Holland, would be reduced to insignificance."

He added:

> "From the broad economic point of view, shipping services, like other exports, should be left in the hands of these countries which can specialise in them and carry them out most efficiently and cheaply."

The world cannot, however, now forget the lesson taught by the last two world wars that both on grounds of national economy and national security every maritime country must develop and maintain her own merchant navy. Moreover, the management of shipping is not and cannot be the privilege of only a few maritime countries of Europe. Every maritime nation has a right to secure her proper place in that sphere. We trust that the Government of India will, no doubt, when they attend the International Conference, draw pointed attention to the almost complete absence of the navy of supply in India's overseas trades, emphasise the urgent need for building up India's Merchant Fleet and secure for India her legitimate place in the carrying trade of the world.

We have referred to the prevailing outlook and tendency in the important maritime nations regarding the development of merchant marine with a view not only to placing before Government the entire background but also to bringing home to them the urgent need both for formulating and implementing a national policy of shipping without undue delay. The world is progressing. India alone is standing still. The Government of India will have to watch with the utmost vigilance how other nations are adding to their fleet and capturing international trade. Unless India takes immediate steps to build up her navy of supply, we are afraid she will remain so far behind in the race of tonnage that ships with Indian flag may find it almost impossible to make their appearance—not to say to make their presence felt—even in India's own overseas trade. In view, therefore, of the decision and determination with which other important maritime countries are implementing their post-war shipping policy and increasing their fleets and widening their sphere of activities, we would urge upon the Government of India in all earnestness that they should give their immediate and serious consideration to our recommendations, particularly when ships with Indian flag have not even begun to move in the overseas trade.

(ii) *What is "Indian Shipping"*.*—Although ships on the Indian Register as well as the ships on the British Register fly the British Flag, the fundamental difference between British Shipping and Indian Shipping lies in its ownership, control and management. This however does not preclude the employment of non-Indian nationals as servants by the Indian Shipping Companies. Even as far back as 1923-24, partial and halting expression was given to this vital difference in paragraph 42 of the Report of the Indian Mercantile Marine Committee. That paragraph reads as follows:—

> "The summary of evidence goes to show that an ideal Indian Mercantile Marine may be briefly described as follows:—
>
> (a) Ships to be registered in India.
>
> (b) Officers and crews to be Indians.
>
> (c) The ships to be owned by Joint stock companies (public or private) registered in India with rupee capital, with a majority of Indians on the Directorate or to be owned and managed by individual Indians.
>
> (d) The majority of the shares in the companies to be held by Indians.
>
> (e) The management of the companies to be predominantly in the hands of Indians.
>
> (f) The ships shall be built in Indian shipyards belonging to companies constituted in a similar manner.

As an ideal to be worked up to eventually, we accept the above definition, but for the present we do not consider that it is capable of practical realisation in full. What we wish to provide for in our coastal trading regulations is that

*Subject to the minutes of dissent by Sir A. H. Ghuznavi and Mr. W. L. A. Radcliffe.

after a time the ownership and controlling interests in the ship or ships for which licences are required shall be predominantly Indian and we think that this qualification should be held to have been fulfilled if a ship conforms to the following conditions:—

(a) That it is registered in India,

(b) That it is owned and managed by an individual Indian or by a joint stock company (public or private) which is registered in India with rupee capital, with a majority of Indians on its Directorate and a majority of its shares held by Indians, and

(c) That the management of such company is predominantly in the hands of Indians.

It is not possible at present to provide that the officers and crews should be completely Indian, because it will take some time under our training scheme to produce the requisite number of Indian officers and engineers, but in our coastal trading regulations which follow, provision has been made for the compulsory Indianisation of the personnel. Nor is it possible at present to provide that the ships applying for licences shall have been built in India, because no shipbuilding yards capable of constructing ocean-going steam vessels exist in this country but we hope that in course of time it will be found practicable to add both these desiderata to the conditions of the licence, which we propose should be laid down."

Public opinion in India has gone far beyond the conception of Indian shipping envisaged in the above Report. It is now universally recognised that Indian industries are those industries which are owned, controlled and managed by Indians themselves. The contrast between "Indian" and "British" is emphasised. Strong expression in regard to this contrast has been given throughout the country in the categorical protest against the discriminatory provisions relating to the Commercial Safeguards in the Government of India Act, 1935. It has been brought home to us that British Shipping is not Indian Shipping. Any share allotted to the British in ownership, control or management of Indian Shipping will not only militate against the growth of national shipping, but it will also further strengthen the hold of British Shipping over India's maritime trades, exercised in future from within the country instead of as at present from across the seas. We have, therefore, no hesitation in laying down that the term "INDIAN SHIPPING" should denote shipping *owned*, *controlled* and *managed* by the nationals of India. We are of the opinion that this is a matter of vital importance, and the definition we recommend has been arrived at after giving very careful consideration and thought to India's economic needs, security requirements and strategic position.

(iii) *Reservation of the coastal trade; increased shares in other maritime trades.*—There is a fairly widespread tendency on the part of the maritime nations to reserve coasting trade to the national flag. Almost all the European countries, including Great Britain, had their coastal trade reserved to their national ships at one time or the other. According to the report issued by the League of Nations in 1931, 27 maritime countries out of 36 had their coastal trade so reserved. The coasting trade in the Japanese waters and between Japan and her dependencies was reserved to the Japanese Flag. The coasting trade of the U.S.A. has been absolutely reserved for the national flag of the country and is not in any case extended to other flags. It is significant to note that Great Britain had demanded in 1918 that the coastal trade of India should be reserved to British Shipping. It will thus be observed that the coastal trade of a country is considered as its domestic preserve in which the flag of no other country can enter as a matter of right.

France.—The reservation of coasting trade dates from 1793. Navigation between France and Algeria was reserved for the French flag in 1899. Foreign

ships could engage in trade between France and the Colonies and between the Colonies except for coasting trade between ports in French West Africa.

Germany.—Trade between German sea ports was reserved to German ships in 1880, subject to exceptions in virtue of international treaties.

Italy.—In 1904 the coasting trade was reserved to the national flag except in special cases.

Japan.—Under Japanese Law, the coasting trade in Japanese waters and between Japan and her dependencies was reserved to the national flag. Exceptions could be made but in practice, it was found, foreign ships did not engage in these trades.

U. S. A.—Coasting trade is absolutely reserved for the national flag and is not, in any case, extended to other flags.

The demand for the reservation of India's coastal trade to Indian Shipping dates from 1918; and in 1923 the Indian Mercantile Marine Committee recommended it. The principle of the reservation of the Indian coastal trade to Indian ships was accepted, by the Central Legislature in 1929, by an overwhelming majority. During the Inter-war period a number of non-official Bills for the reservation of coastal trade to the Indian Flag were introduced in the Legislature. There can, however, be no question of India's right to reserve her coasting trade to her own ships. We would, therefore, recommend that the entire coastal trade of India should be immediately reserved for shipping owned, controlled and managed by the nationals of the country. Useful and necessary as this measure is for the development of Indian shipping, we must make it perfectly clear that such reservation alone will not meet India's requirements or enable the country to build an Indian merchant navy for the future. The Government of India should take firm and far reaching steps for enabling Indian Shipping to carry a very substantial portion of India's overseas trades. This is the crux of the problem. On its proper, immediate and effective solution will depend the rapid growth, the competitive efficiency and the real power of the future Indian navy of supply.

The principle, which is strongly emphasised in the modern world of shipping, is that a country should carry in her own national bottoms at least 50 per cent. of her maritime trades. The leading authoritative spokesmen of the U.S.A. have given expression to this policy. Great Britain is anxious to ensure that British Shipping continues to retain and maintain its hold on the carriage of the largest portion of the maritime trades of the world. This aspect of the British policy was reaffirmed in October, 1944, by the Minister of War Transport when he stated that the British mercantile marine "must be at least as large as before the war and so much larger as British enterprise and efficiency can make it in a world in which it was hoped that artificial obstacles to trade would have been, at least in some measure, removed." These and various other expressions of the Shipping policy deserve our most serious consideration. Our considered opinion is that the Government of India should, in fixing a suitable tonnage target and in securing for Indian Shipping her just and proper share in the coastal and foreign trades of India (Cargo and Passenger included), take into account not only strictly commercial and economic considerations but also the strategic, defence and allied considerations which have a direct bearing on the development of an Indian mercantile marine. All these various aspects of the question and the considerations and requirements connected with India's defence and the maintenance and strengthening of the strategic position have received our careful thought and they have formed the basis of the recommendations which we have made in the following chapter.

Before we come to the detailed recommendations, we would like to invite the special attention of the Government of India to the subjects which are to be discussed at the International Conference to be held in 1947, and the manner in which their deliberations might affect India's position in the world of shipping. One such International Conference will be held under the auspices of the Economic and Social Council of the United Nations Organisation towards the end of 1947 for considering the question of the expansion of the world trade and employment. As shipping is the instrument by which trade flows from one country to another, India cannot play her proper part in the expansion of world trade, unless she is allowed to build up an adequate and well-balanced shipping of her own. The Government of India will have to exercise the greatest vigilance over the deliberations of such an International Conference. *Not only will they have to secure a place for shipping on the Agenda of that Conference*, but they will also have to put up a firm fight for enabling India to acquire her proper share of shipping if she is to play her real role in the reconstruction and expansion of world trade.

Another International Conference for the purpose of establishing a specialised Agency in the field of shipping is also to be convened by the Economic and Social Council of U.N.O. in 1947. The proposed draft of the Convention which that Conference will be asked to adopt will require all Governments not to take any special steps for the protection of their national shipping but to take every step to promote the free availability of shipping services of all countries to the commerce of the world without discrimination. It is significant that those maritime countries which have built up their powerful national Merchant Navies by the adoption of every form of discrimination in favour of their own shipping during the last two centuries are now insistent that the ideal of absolute free trade in the field of shipping should be adopted also by those countries which are yet struggling to build up a Merchant Marine. Here again India's position is unenviable. Indian shipping has practically no footing in the carriage of her overseas trades. She needs to build up a substantial tonnage for the carriage of her own overseas trades. For India it is not a question of not giving protection to her own shipping, the question is how India should acquire and build tonnage for her own needs which she has been denied up till now. It is well-known that Indian shipping Companies in the past have been wiped out of existence by severe rate wars carried on against them by British Shipping Companies. The proposed specialised Agency in the field of shipping will, on the one hand, proclaim that any such just grievances of its Members will be outside its jurisdiction but at the same time will compel its members not to redress the grievances of their own national navies by giving them such help and protection as they might need.

We realise that India must extend her co-operation in the working of all such specialised Agencies as might be set up in the world in the future, but we must make it clear that such co-operation must be conducive to the development of a national navy of supply for India and should not lead to its further annihilation. We would strongly urge further that this and such other points must be categorically emphasised by the Government of India at the forthcoming International Conferences. Otherwise, India will find that her path is blocked at every stage and in every direction even in regard to the fulfilment of her legitimate ambition to carry a reasonable share of her maritime trades in her own bottoms.

(iv) *Will a policy of negotiation with H. M. G. develop Indian Shipping?*—Let us now examine some of the measures which can be usefully employed to implement the recommendations which we make hereafter for building up an adequate Indian Merchant Navy. According to the statement laid down on the table of the Central Legislature on 31st August 1938, the proportion of Indian and British shipping in the coastal trade of India was 21 per cent. and 79 per

cent. respectively. So far as the foreign sea-borne trade of India was concerned, the statement added that 2,756,400 tons of British shipping were engaged in that trade. Indian shipping has, as stated above, practically no share of that very large overseas trade. It is the British shipping which dominates India's maritime trades and practically controls their carriage to and from India. For instance, as stated by the Imperial Shipping Committee in their 38th Report on British Shipping in the Orient, the entire carriage of the trade between India and the United Kingdom is controlled by British shipping. According to that report British ships carried over 95 per cent. of the export cargo from the U.K. to India and over 99·5 per cent. of the export cargo from India to the U. K. in the years 1936 and 1937. If Indian shipping is, therefore, to secure a footing in India's overseas trade and to carry more and more of that trade in the future, the carriage of which legitimately belongs to Indian shipping, the fact will have to be recognised that unless British shipping withdraws from that field, it will be difficult for Indian shipping to make any appreciable headway in that direction. The question, therefore, naturally arises—whether the hitherto entrenched British shipping will agree to allow Indian shipping to operate increasingly in that field which belongs to India as a matter of right and whether the Government of India should negotiate with H.M.G. in that matter? We understand that the Government of India have already had some exploratory talks in this direction. We do not know whether these talks have inspired any hopes to justify further active negotiation on a Government to Government basis. We are, however, aware of the fact that the policy of negotiation has been holding the field since 1929. We are also aware of the feeling of keen disappointment that Indian public and Indian shipping interests have experienced as a result of the unconsciously slow progress of the development of Indian shipping due to this policy of negotiation. Despite these facts we would not rule out the method of negotiation with H.M.G. for advancing the cause of Indian shipping. In stating this we are not unmindful of the decision of the British Government not only to ensure the maintenance of the pre-war position of British shipping in the world trades but also to improve it by carrying a larger share of these trades than was carried before the war.

If the Government of India, therefore, still hold the view that they would like to further explore the possibility of developing Indian shipping by the method of negotiation, we would *only* urge upon them the necessity of opening negotiation *forthwith*, particularly as the other maritime countries have been adding to their tonnage with a view to capture not only their pre-war trades but also add to them. It is also necessary that Indian shipping interests should be fully and actively associated with the Government in any negotiation that Government may decide to open with H. M. G.

We would, however, strongly recommend a step of great importance which the Government of India should take without waiting for the progress of the results of negotiation. India has recently been importing huge quantities of food grains from abroad. It is likely that she will continue to import food grains for a few years more. India has had the bitter experience that owing to the absence of India's own ships food grains would not come in time in the past to feed her starving millions. It is, therefore, imperative that Indian shipping interests should be encouraged to provide India with such ships. In addition to the vital part which Indian ships will play in bringing in time the food grains which India so badly needs, they will also enable India to conserve substantially her urgently needed dollar resources. As a matter of fact, India is already reported to have paid over 15 million dollars in the shape of freight for bringing food grains from abroad. A very large part of these dollars could have been conserved had the Government of India shown vision and foresight in developing shipping. We may further add that in case Indian enterprise buys or builds ships required for importing such food grains, we feel that Government should

assure them that they will not be allowed to be driven out by unfair competition, after the emergency is over but that they will receive fullest support from the Government of India in the maintenance and profitable employment of such tonnage.

(v) *What should we do if the policy of negotiation fails?*—While we have not ruled out the possibility of achieving our object by the policy of negotiation, it is necessary that we must examine other methods for the realisation of that object, should the policy of negotiation fail to do so. Even as far back as 1929 Government themselves had visualised the possibility of such a failure and had assured the Legislature that not only would they explore fully the question as to the means by which the obstacles in the way of the development of Indian shipping can be removed, but they would also consider how far "direct financial assistance by Government to Indian shipping could justifiably be given" for the purpose of developing Indian Mercantile Marine. If in 1929, Government thought that it might be necessary to give financial help for the development of Indian shipping, there is, we feel, greater justification for rendering such help in the year 1947. As we have already explained earlier in this report, the part played by State aid in the expansion of the shipping industry in the principal maritime countries has not only been considerable but fundamental. Even in Great Britain, despite the powerful resources of British shipping and the leading position which it occupies in the world of shipping, millions of pounds were given to that industry by way of subsidies, cheap loans etc., before World War II to enable it to maintain its supremacy at sea. We are, therefore, strongly of the opinion that if the policy of negotiation fails, it would be necessary for the Government of India to give financial aid at least to that section of the Indian shipping industry which will participate in India's overseas trades so that Indian shipping may be stimulated to play an effective role in the carriage of this portion of India's maritime trades. We have stressed this point in regard to the overseas trade, for we hope and believe that the Government of India will not experience any serious difficulty in reserving the coastal trade to Indian shipping. Such reservation may necessarily imply licensing of ships which may ply in the coastal waters. With a view to ensuring economic working of the tonnage plying on the coast, the Licensing Authority, which we recommend, may have to determine the limit of the tonnage that should ply on the coast from time to time. Once the economic working of that tonnage is ensured under the Licensing System, there will be no necessity for financial assistance.

We do not desire to consider in detail the nature and extent of the financial assistance that the Government of India may have to give for building up an Indian Merchant Navy for carrying India's overseas trades. That question will have to be determined on its own merits after examining all aspects of the problem. The significant fact, however, that cannot be ignored is that India must build up her own national shipping to carry her own cargo in the overseas trades. All other considerations are subsidiary to this main objective which Government should have to keep in view.

(vi) *Indian Shipping Board.*—It will be necessary to set up a suitable machinery for the working of a Licensing System to regulate the coastal trade and for determining the form, nature and extent of the financial and other aids that may be necessary for the development of Indian shipping in the overseas trade. As a means of implementing these recommendations we further recommend that the Government of India should take immediate steps to set up a Shipping Board. This Board should have an independent Chairman, if possible, possessing considerable judicial training and experience. Government shipowners and Commerce should be represented as members on that Board. It should be the function and responsibility of the Board to issue licences to Indian ships in order to enable them to ply in the coastal trade of India. In

issuing licences the Board will have to bear in mind the requirements of the trade and the economic working of the tonnage that may be licenced.

As regards the financial and other aids that may be given to Indian shipping operating in the overseas trades, the responsibility of the Board should be to consider all applications for that purpose and to recommend to Government the form, nature and extent of such financial aid. The one fundamental fact that should weigh with the Board and should influence its recommendations should be that Indian tonnage must be enabled, within a very short time, to carry a very substantial portion of India's overseas trade and a fair portion of the carrying trades of the world. It should also be the duty of the Board to advise the Government of India from time to time as to the other forms of State aid which Indian shipping will need and also to lay down the nature and forms of State control that need be exercised over the Companies which may receive such assistance. The Board should also be empowered to submit their proposals to Government as to how the evils of economic exploitation in the field of shipping can be removed. It should also be the function of the Board to adjudge applications from Indian Companies for assistance to protect their position when they are operating under Conference arrangements.

We think that it will be useful in this connection to recall the steps taken in the United State of America to establish a similar machinery. During the first world war, the United States merchant marine was short of the minimum requirements for naval auxiliaries in the event of war. The first remedial action was the Shipping Act of 1916, establishing a United States Shipping Board for the purpose of creating and developing a naval auxiliary and naval reserve and a merchant marine as well as regulating sea transport. The United States Merchant Marine Act 1936, dissolved the Shipping Board and created the United States Maritime Commission to "study, perfect and adopt a long range programme of replacements and additions to the American merchant marine, so as to create an adequate and well balanced merchant fleet, including vessels of all types, to provide shipping services on all routes essential for maintaining the flow of foreign commerce to the United States, the vessels in such fleet to be so designed as to be readily and quickly convertible into transport and supply vessels in a time of national emergency."

This fleet was to be owned and operated by citizens of the United States so far as practicable. The Commission was further directed to investigate and keep records of a great variety of matters, including ocean routes and services; foreign competition; comparative costs, in the United States and other countries, of construction, insurance, maintenance, repairs, wages and subsistence; foreign subsidies and other governmental aid; facilities in aid of United States shipping; and application of the Act to air, commerce and technical progress. Further, the Commission was to co-operate with owners of vessels in devising means by which exporters and importers of the United States could be induced to give preference to vessels under United States registry, and to study the desirability of aiding the construction of super-liners or the establishment of transoceanic air craft services. A further duty was the investigation of cases where the United States exporters were required to pay higher rates to any foreign port than were charged, for similar cargo in the reverse direction—cases which might be expected frequently in view of the normal excess volume of American exports over imports.

We would agree that India's case cannot be considered identical with that of the United States, but we have no doubt in our mind that the functions of the United States Maritime Commission do provide a model for the future Indian Shipping Board.

CHAPTER IV

TERMS 1 AND 2 OF THE REFERENCE

(1) *What would be a suitable tonnage target for Indian Shipping to be attained within a period of five to ten years.*

(2) *What percentage shares of the maritime trade of India and other trades in which India is interested both coastal and overseas, cargo and passenger should be secured for Indian Shipping.*

(i) *Not possible to decide the Ultimate target.*—We propose to deal first with item (2) as, an answer to the question put under the first term of reference will depend upon what percentage share of the Indian and other trades is to be secured for Indian shipping and also upon the strength of shipping considered essential for India in order to maintain her strategic position and meet the needs of her defence. Before, however, passing on to a detailed consideration of this, we would like to take note of the fact that the world has emerged much poorer from out of the last war and the future trend of International trade is very uncertain. Economic prosperity may vary from region to region and the composition of world trade may also undergo some changes. Shipping is an industry which is probably more directly affected by trade cycles than perhaps any other. Experience of all maritime countries has been that the shipping industry is the last to benefit from a boom and the first to feel the effects of a slump. The increase in the world tonnage and the extent of international co-operation for the expansion of world trade are bound to influence the national shipping policy of all maritime countries. We, therefore, consider it both unwise and undesirable to lay down at this stage an ultimate tonnage target which India should eventually have. We can only strongly emphasize the point that every possible step needs to be taken without any delay to develop substantially the tonnage under the control of and managed by the nationals. Our recommendations, therefore, indicate the programme of action for the immediate future and the next few years. We would, however, also emphasize the fact that the percentage shares and the tonnage target recommended elsewhere in this chapter are the minimum that should be secured in the course of, say, the next five to seven years."

(ii) *Shipping Statistics.*—A detailed statistical study is necessary before we could make recommendations in regard to the first two terms of reference. The statistics required for our purposes may be classified as follows:—

(1) *India's Coastal Trade.*—The nature and tonnage of commodities and the number of passengers carried between the different ports of India in the pre-war period showing also the number, nationality and tonnage of vessels in which they were carried.

(2) *India's Overseas Trade.*—The nature and tonnage of commodities and the number of passengers carried from each of the Indian Ports to each of the maritime countries of the world in the pre-war period showing also the number, nationality and tonnage of vessels in which they were carried.

Official statistical data relating to shipping do not, however, give all these details; the figures placed before us have been collected from different sources and it is therefore possible that there may be some minor errors in them.

So far as India's coastal trade is concerned, apart from the fact that prior to 1st April 1937 Burma has been shown as part of India in the trade accounts, it should be stated the *Monthly Accounts relating to the coastal trade and navigation of British India* do not give quantity figures for some of the commodities entering into the coastal trade. The publication contains only value figures for total exports and total imports. *The Annual Administration Reports of the principal Indian Ports* contain information relating to the nature and total tonnage of the trade passing through the ports, but these figures do not

distinguish in all cases between coastal and foreign trade. It has been ascertained from the Port Trusts that they do not all have the details required by us. Moreover, these publications do not contain the particulars of the tonnage and of the flag carrying this trade, nor do they give the details of the countries from or to which the trade and traffic flows.

Fortunately, in regard to coastal cargo, tonnage figures have been furnished to us by the Scindia Steam Navigation Company, Ltd., and these compare very favourably with the tonnage estimates arrived at from the value figures published in the *Accounts relating to the Coastal Trade*. These figures are reproduced in Appendices V, VI and VII. The number of passengers carried on the coast are given in Appendix VIII. In Appendix IX we give the total tonnage of vessels according to nationality, operating in the coast.

Statistics in regard to overseas trade are even less satisfactory. As pointed out earlier, the Port Trust reports do not distinguish in all cases between Coastal and Foreign Trade; nor do all the Ports keep details in regard to countries of origin and destination. We reproduce in Appendices X and XI the total tonnage of India's maritime trade (Coastal and foreign) as published in the Port Trust Administration Reports and the estimates of tonnage of India's export and import trade with the principal countries of the world in 1938-39 derived from the *Annual Statement of the Sea-borne Trade of British India, Vol. II*. This publication, compiled in the Department of Commercial Intelligence and Statistics, Calcutta, from the returns furnished by the Collectors of Customs, contain value figures for each of the commodities in respect of each of the various overseas countries with whom we trade as also the values of total exports and imports. Figures in regard to the total *tonnage* of imports or exports are not given in the Sea-Borne Trade Accounts for, in respect of certain commodities quantity is not recorded and in respect of certain others quantity is recorded in units other than that of weight. The weight of such commodities has been estimated in order to arrive at an estimate of the tonnage of total imports and exports. The commodities in respect of which quantity figures are not shown in the *Sea-Borne Trade Accounts* are mostly manufactured articles. Available official statistics in regard to passenger traffic are published in the *Statistical Abstract for British India*, but these relate to unberthed passengers only. The number, nationality and tonnage of vessels entering into and clearing from Indian ports with cargo and in ballast are given in Appendix XII.

As we were anxious to get a complete picture of the statistical position and as the official statistics placed before us were inadequate, the Commerce Department at our request, addressed all the Shipping Companies for the supply of certain additional information. The letter issued by them is reproduced in Appendix III. We are very sorry to have to place on record that the response of non-Indian Shipping Companies to this request *from the Government of India* has been very poor. In view of the fact that it is of the utmost importance that detailed statistics relating to shipping should be maintained at least from now on, we would request the Government of India to take immediate steps for collecting on an annual basis the statistical data which we have described above under (1) India's coastal trade and (2) India's overseas trade. It would be advantageous to ask the Port Trusts to undertake this task and for this reason we would suggest that the control over the Port Trusts should go over from the Transport to the Commerce Department. There are also other reasons why control over the ports should rest with the Commerce Department. It is the latter Department which deals with shipping policy and other technical questions relating to shipping. It is only logical that the Port Trusts should be administratively under the control of that department which is responsible for shipping. The development of an Indian merchant navy is inextricably wound up with the question of port facilities.

We would recommend that the shipping statistics should be separated from the trade statistics of India and published in a separate volume as is done in the United Kingdom.

Wartime figures are distorted owing to the controls over shipping and export and import trades; there have been diversions of the carrying from one means of transport to another. For example, so far as the coasting trade of India is concerned owing to the shortage of shipping, trade which would have been carried by steamships has actually been carried by the congested railways ever since the outbreak of the war. Wartime data could not therefore give us reliable guidance for laying down a suitable shipping policy for the future. We have used as far as possible the figures for the period prior to September 1939; in respect of the coastal trade, we give figures for each of the five years ending 1938-39 while in regard to the overseas trade we have largely confined ourselves to the last pre-war year 1938-39. It has been pointed out earlier in this section that the tonnage figures of foreign trade are estimates made from the value figures compiled by the customs and it would not be possible for us to submit this report in time if we were to attempt to make similar estimates for some of the earlier years. The weight of individual commodities has to be calculated before we could get the total imports and exports of India with a particular country and the repetition of this process for all the foreign countries with whom we trade would involve a colossal amount of labour and time.

It has been represented to us that the freight ton is very different from the ton used in the trade and that caution should be exercised in coming to any conclusion in regard to the tonnage target by using the available trade and other shipping statistics. We know that the published statistical data regarding the tonnage and number of vessels relate to the gross registered tons and include repeated voyages. It is largely correct to say that the weight of cargo carried in a particular period cannot give reliable guidance in regard to the fixation of a tonnage target for Indian shipping. The stowing space required for cargo carried on a steamer varies according to the nature of the commodity to be carried. For instance, while a ton of rice in bags requires about 49 c.ft., a ton of cotton in full-pressed bales requires about 70 c.ft. of space for storage. A five thousand D.W. ton cargo vessel may be fully loaded in the sense that all available space in the steamer has been utilised but the actual weight of the cargo loaded may only be about 60 per cent of the capacity of the vessel. Raw cotton is a case in point. A five thousand D.W. ton cargo vessel may be full with this commodity, but the actual weight of the raw cotton may only be little over 3,000 tons. A given weight of raw cotton naturally occupies more space than for example deadweight cargo like coal. We have borne these important considerations in mind in arriving at the tonnage target which we recommend later on.

Para. 3 of the departmental statement on "Postwar Shipping Policy" contained in the second report on Reconstruction Planning refers to the acquisition of an adequate share in the world's carrying trade as the goal of the Central Government's shipping policy and indicates the percentage shares to be secured in the various trades of the country. The statement divides the trades into coastal, including trade with Ceylon and Burma, near trade, *e.g.*, Persian Gulf, East Africa, Malaya and the Dutch East Indies, Eastern Trades, especially those trades of which Japanese shipping has been dispossessed, and the trade between India, the U. K., the continent of Europe and North America. We have analysed the maritime trades of India from the point of view of shipping and on the analogy of the departmental statement we have, for purposes of convenience, adopted the following classification:—

(1) the purely coastal trade of India;

(2) India's trade with Burma and Ceylon which can be described as associated coastal trades;

(3) India's trade with what might be described as the geographically adjacent countries, *i.e.*, countries with whom we trade through the Indian Ocean and the Red Sea. Broadly speaking this group will comprise the whole of Africa, the Middle East (including the Persian Gulf) Thailand, Indo-China, Malaya and the Dutch East Indies;

(4) India's distant trades, *i.e.*, our trade with Japan, China and Australia, the Continent of Europe, U. K. and North and South America; and

(5) trades lost by the Axis in the Orient.

We now proceed to a detailed consideration of each of the trades described above.

(iii) *India's Coastal Trade and Associated Coastal Trades.*—Appendix VII contains figures showing general cargo, coal, salt and mineral oil lifted by the principal Indian and non-Indian Companies from and to ports in India, Burma and Ceylon from 1933-34 to 1938-39. As our trade with Burma and Ceylon has always been considered as coasting trade, separate figures showing the purely coastal trade of India are not readily available. We have, however, tried to calculate the purely coastal trade for the year 1938-39 and the figures are given in Appendix V. It will be seen that out of a total cargo of 71·2 lakh tons for India, Burma and Ceylon, the purely Indian coastal trade amounted to 24 lakh tons. Before we analyse those figures with a view to recommending the percentage shares of these trades for Indian shipping, the composition and nature of the trades may be briefly described.

In the year 1938-39, nearly 46 per cent of the purely coastal trade of the country was made up of articles wholly or mainly manufactured; raw materials and articles wholly or mainly unmanufactured constituted another 32 per cent while the remaining 22 per cent of the trade consisted of food, drink and tobacco. In the same year India's export of food articles to Burma and Ceylon amounted to 39 per cent of the total export trade; the share of raw materials and articles mainly unmanufactured was 15 per cent while that of mainly manufactured articles was 45 per cent. On the import side, the share of food, drink and tobacco was 52 per cent of total imports, raw materials and unmanufactured articles constituted 45 per cent and manufactured articles 3 per cent. Thus, it will be seen that the predominant group was that of manufactures both in the coasting trade and India's export trade with Burma and Ceylon, while our imports from these two countries were almost wholly food articles and raw materials.*

The average cargo lifted by Indian Shipping Companies during the period of 6 years ending 30th June 1939 amounted to about 25 per cent of the total trade. The tonnage of India's exports to and imports from Burma and Ceylon, estimated from the value figures published by the Customs, are given in Appendix XIII. According to this statement, the total quantity of imports and exports in the fiscal year 1938-39 amounted to 42 lakh tons, which compare favourably with 37 lakh tons actually carried by the shipping companies and given in Appendix V. We would recommend that the entire coastal trade of India, amounting to nearly 24 lakh tons, should be *immediately* reserved for Indian shipping; 75 per cent of our associated coastal trades, namely, trade with Burma and Ceylon should be secured for Indian shipping. Roughly speaking, the quantity of this trade would be about 32 lakh tons. The above reservations should also apply to passenger traffic. It will be observed from Appendix VIII that the total number of passengers carried on the coast in the

* In fixing a tonnage target for Indian shipping for the next 5 to 7 years, we have taken into account the nature of the commodities entering into each of the different trades. Out of a total quantity of 71·2 lakhs tons lifted in the coastal trade of India, Burma and Ceylon during the year ending 30th June 1939, nearly 8 lakh tons constituted mineral oil while the rest consisted of general cargo, coal and salt.

year 1938-39 was 25 lakhs (including Burma and Ceylon). We have no estimates of the total number of passengers carried from and to all the Indian ports.

We have already referred to the almost universal practice of reserving coasting trade to the national flag. There has been an insistent demand, for over two decades now, that the coastal trade of India should be reserved for shipping owned, controlled and managed by the nationals of the country. It is a matter of deep regret that the Government of India have not responded to this insistent demand of the Indian people. We would, however, express the hope that this particular recommendation of ours, based on a policy recognised all the world over, would be put into immediate effect. Licensing of the coastal vessels is a necessary corollary to reservation and we have, therefore, recommended the constitution of a *Shipping Board* for this purpose. It will be the responsibility of the Board to ensure on the one hand that the trade is not penalised by any undue rise in the rates of freight, and to so regulate on the other hand the tonnage to be licensed as to maintain the conditions of efficient operation and economic working.

(iv) *Adjacent Trades and Trades with the far East.*—Broadly speaking this group comprises the whole of Africa, the Middle East (including the Persian Gulf), Thailand, Indo-China, Malaya and the Dutch East Indies. Nearly 60 per cent of India's export trade with this group of countries in the year 1938-39 consisted of manufactured articles; 30 per cent consisted of food, drink and tobacco and the remaining 10 per cent of raw materials and unmanufactured articles. As much as 76 per cent of our imports from these geographically adjacent countries was made up of raw materials and unmanufactured articles while the rest of the trade was made up of food articles 19 per cent and manufactured articles 5 per cent.

It is well known that Indian Shipping has practically no footing in India's overseas trades. Barring the recent participation to a very small extent of Indian Shipping in the carriage of Pilgrims to Hedjaz and the recent carriage of rice from Java to India by a newly acquired vessel of the India Steam Ship Company, Indian Shipping is conspicuous by its absence in the overseas trades of India. We give in Appendix XII the number and tonnage of vessels according to nationality that entered into and cleared from the Indian ports with cargoes and in ballast. It is true that these figures are not useful, for they include repeated voyages of the steamers and the tonnage relates to the gross registered tons. But, it will be noticed from the statement that nearly 70 per cent of the vessels that entered and cleared at ports in British India in the pre-war years was of British nationality. What is meant is that British ships owned by British shipowners carry this trade. British Shipping is contrasted here with Indian Shipping truly so called. Both in the coastal trade and in the overseas trade of the country, it is British shipping which has been occupying a predominant position. We are of the opinion that Indian shipping should have at least 75 per cent in what might be described as the geographically adjacent trades. The total quantity of India's imports and exports with this group of countries was about 2½ million tons in the year 1938-39. We would recommend that nearly 1·9 million tons of this cargo should in future be carried in Indian bottoms. One of the important commodities which we supply to most of these countries is jute and jute goods, of which India has practically a monopoly. We have also developed our trade in cotton manufactures with these countries. Again, during the war some of these geographically adjacent countries had to look to India as almost the sole supplier of certain categories of goods like cotton manufactures. We would therefore urge the Government of India that, next to the coastal and associated coastal trades and securing a due share of the trades formerly carried by the axis powers, they should concentrate on acquiring for Indian shipping at least 75 per cent of the near trades described above.

(v) *India's Distant Trades.*—India has been a traditional exporter of raw materials to Europe, U. K. and America from whom we have been getting in turn our requirements of manufactures. As much as 85 per cent of our imports from this group of countries in the year 1938-39 (*i.e.*, Japan, Australia, the Continent of Europe, U. K. and the North and South America) was composed of articles wholly or mainly manufactured; food and tobacco contributed another 10 per cent while the remaining 5 per cent was made up of unmanufactured articles. Our exports to this group to the extent of 60 per cent were raw materials, while the share of the manufactures in India's exports to these countries was 30 per cent, and the balance of 10 per cent consisted of food, drink and tobacco.

We would recommend that in regard to these distant trades 50 per cent should be the target for Indian shipping in the next 5 to 7 years. India's trade with this group of countries in the year 1938-39 has been estimated to be 9·3 millions tons, and half of it would be 4·7 millions.

(vi) *Trades lost by the Axis in the Orient.*—India should secure for her national shipping due share in the trades formerly carried in the Axis vessels in the orient, of which they have been dispossessed. Japan, amongst the Axis countries, was the most leading maritime power in the Orient and she carried a very substantial trade. A fairly good portion of the trade carried by Japanese Shipping has, therefore, to be secured for Indian Shipping, and we strongly recommend that steps should be taken by the Government of India to secure at least 30 per cent of these trades. We would draw the pointed attention of Government to the reported determination of the U. S. A. to retain the entire trade carried by Japanese Shipping in the Orient, for American vessels. The Government of India, therefore, have to watch with the utmost vigilance any development that may take place in this connection, and make suitable representations and carry on necessary negotiations with the proper authorities to securing for Indian Shipping her legitimate share of this trade.

(vii) *Tonnage required for the carriage of the above Trades.*—The following is a summary of our recommendations in regard to the percentage shares to be secured for national shipping in each of the maritime trades described in the previous sections of this chapter. The estimated quantity of exports and imports given below errs on the low side. The actual quantities carried, if all the figures were available, would be larger than those given below. We are not providing in these for any expansion in India's overseas trades which may result from the development of her agriculture and industries.

——	Estimate of the trade (exports and imports) (Quantity in lakhs of tons)	Percentage share to be secured for Indian Shipping	Estimate of the cargo to be carried in Indian bottoms (Quantity in lakhs of tons)
	2	3	4
1. The purely coastal trade of India . .	24	100%	24
2. India's Trade with Burma & Ceylon .	42	75%	32
3. India's Trade with the geographically adjacent countries.	25	75%	9
4. India's distant trades	93	50%	47
5. Trades lost by the Axis in the Orient .	...	30%	...
	(Tonnage figures not readily available)		

As the available figures of passenger traffic relate to the coast only, we have not been able to describe the passenger traffic between India and the foreign countries. The percentage shares which we recommend above should apply not only to the cargo but also to the passenger traffic. Roughly speaking in fixing the target tonnage for Indian shipping in the next 5 to 7 years, we have presumed that at least 30 lakhs of passengers will in future travel in Indian vessels.

We have analysed above the position of India's maritime trades. The consensus of informed opinion is that to carry the above cargo amounting to more than 10 million tons a year, and about three million passengers, India needs 2 million gross tons of shipping. We realise that the attainment of this target for Indian shipping in the period that we recommend may not at all be easy owing to the difficulties in building and acquiring ships in the immediate future. But, we are convinced that this rapid growth of the Indian mercantile marine is a matter of great national urgency, and in view of our sad experience during the war that has just ended, the Government of India should do all that is possible to ensure that this 2 million tons is acquired before the end of the 7 year period.

It is difficult to determine with any precision the future trend of shipbuilding in the world in regard to design, speed, size, tonnage, etc. It is also not possible at this stage to gauge the effects of the development of Civil Aviation on the speed and size of the large liners of the world. We would, however, leave it to the individual Shipping Companies to decide the question of the suitability of vessels for their own services, which may depend upon the routes, and the nature of cargo catered for, as much as upon conditions of competition and rising standards of speed and amenities.

It should be added that this 2 million tons exclude country craft, building of which has been going on from time immemorial, particularly in Calicut and other ports on the West Coast. There are no reliable estimates in regard to the present tonnage of the country craft and we would recommend that in future detailed statistics relating to these vessels should be collected and maintained.

(viii) *How to acquire new Tonnage*: (a) *Negotiation with H. M. G. and/or British Companies.*—Although India has rather a bitter experience of the efficacy of a policy of negotiation for the purpose of developing National tonnage, we cannot but note the actual position that it is British Shipping which has all along dominated and continues to dominate India's overseas trades. We would not, therefore, rule out the possibility of developing National Shipping by negotiating with H. M. G. and with the British Shipping Companies. The good offices of Government may also be utilised to enable Indian Companies to negotiate successfully with British Shipping Companies in regard to the trades in which they jointly operate their services. We would, however, bring to the notice of Government the vital fact that British Shipping is advancing in every direction and that British Shipping Companies are building new tonnage for the trades which they have served in the past. The policy of negotiation, if it is to be adopted and pursued, can, therefore, brook no delay. As the vital issue in these negotiation will be that of transferring to Indian Shipping a large porton of the trades hitherto controlled by British Shipping, the question of purchasing British tonnage also may arise. That is a problem which can only be settled on its merits by those who may have to carry on such negotiations. We are, however, of the opinion that the policy of negotiations alone cannot develop National Shipping. Like other important maritime countries of the world, the Government of India will have to take a militant view of their responsibilities and obligations towards National Shipping. The policy of negotiations may, perhaps, fail. The Government of India must be prepared to face such a failure. They will have, therefore, to be ready to meet such a contingency and consider, in advance, what other methods they can adopt and the steps they should take

to develop a suitable navy of supply for this country. It cannot be denied that the shipping industry has not so far received any protection whatsoever from the Government of the land. We would, therefore, urge with all the emphasis at our command that the Government of India should, in any plan that they may prepare to ensure the building up of an Indian merchant navy as recommended by us, be prepared to adopt all measures, including financial assistance for the development of Indian shipping.

(b) *Import of foodgrains by Indian tonnage.*—It has been our sad experience that in the absence of Indian ships we could not bring foodgrains from abroad in time for the starving millions of our country. India will be importing over a million tons of foodgrains per year from foreign countries, other than Burma. It is very probable that foodgrains would continue to be imported for a few years to come. It is essential that there should be a nucleus of Indian ships for bringing such imports from abroad into this country. We would, therefore, strongly recommend that Indian shipping interests should be encouraged to acquire the necessary tonnage for bringing such foodgrains to India and that the Government of India should give the assurance that such Indian enterprise will be protected by every possible means against unfair competition from foreign vested interests. We have no doubt that such an immediate acquisition of tonnage would add to the small but tangible nucleus of Indian operations in the overseas trades of India which has recently been created by the efforts of the India Steamship Company and the Scindias.

(c) *Purchase of U. S. A.'s surplus ships.*—An Act was recently enacted in the United States of America for the sale of her surplus ships to foreign buyers. A large number of these surplus ships has already been sold both to shipowners as well as to the Governments of several countries. It is possible that these ships may not come up to the efficiency or be found so durable as ships built in times of peace or ships constructed for special trades. It is also possible that the tonnage and the draft of these ships may not be suitable for operation in certain trades. Subject to investigation into these and other factors, we recommend that the Government of India should help Indian shipowners to the fullest extent possible in buying these surplus American ships as an addition to the existing Indian Tonnage and thus take a step forward in the country's desire to build up the Merchant Navy. We are glad to note from one of the recent Communiqués issued by Government that they would be prepared to release the dollars required for the purchase of such ships. We understand that Government have already released about 11 million dollars, 6 millions of which have been allotted to India Steam and 4 millions to Scindias for the purchase of American ships. We would, however, further urge upon Government to make suitable representations to the United States Authorities and bring home to them the urgency of India's requirements in the matter. Apart from the magnificent services rendered by India as an ally in the last war, it is of importance that her very meagre tonnage should be immediately increased to meet her vital needs. We have no doubt that if the Government of India were to take timely and immediate action in this matter it will be possible for Indian enterprise to acquire a fair portion of the tonnage that it may require for India's coastal and overseas trades and for importing foodgrains from abroad.*

(d) *Building in India and U. K.*—Another method of adding to the existing Indian tonnage is to build new tonnage both in India and outside. We are not unaware of the fact that the present cost of building ships is 200/300 per cent more than what it was in the pre-war years. The fact, however, cannot be ignored that every shipowner, who is anxious to maintain his position in the

* In this connection we understand that India Steam has been allotted 6 fast 'Victory' ships and Scindias will shortly be allotted 5 'Liberty' ships by the American Government.

trades which he was serving before the war, has already placed large orders for building ships suitable to his trades even at the existing cost of building. India cannot afford to wait in the matter of increasing her tonnage till building prices come down to pre-war levels. It is also obvious that the present high cost of tonnage may affect the economic working of Indian shipping. We would, therefore, recommend Government to go fully into this aspect of the question and to give such subsidy to Indian shipowners towards the building cost of their vessels as may enable them to ensure economic operation. We are glad to note that there is a well laid-out shipbuilding yard in India at Vizagapatam. Ships of about 550 feet in length and of about 12,000 tons gross registered can be built in that Yard. We are also informed that 8,000 tonners are already under construction in that yard. We would, therefore, recommend that Government should assist that and other similar enterprises and extend to them such patronage as is possible and as they deserve. It may be that all requirements of ships that may have to be built in India may not be met by such Yards. It will, therefore, be necessary for Government to investigate into the capacity of that and other Yards and to take such measures as may be necessary for increasing the building capacity in the country by laying out Yards at such other ports as may be found necessary and advisable.

The numerous small ports on the coast of India, which carry on trade with a number of inland places not connected by Railways, or good roads, will continue to be served by country craft for a long time to come, for these ports may not be regularly visited by big liners even if they are developed. Quite apart from the development of minor ports every assistance should be given for the building of country craft, which are usually small sized. We would also recommend that in view of the limited facilities available in the smaller ports, India should necessarily have a fleet of small landing crafts, which were used on a large scale during the last war and the possibility of using which during peacetime, should be fully explored. We are informed that the Disposals Directorate of the Government of India have a number of these small crafts in surplus.

CHAPTER V

TERMS 3 (a) AND (b) OF THE REFERENCE

3. *What measures should be taken.*—(a) *To regulate the Shipping Industry with a view* (i) *to preventing the formation or establishment of combines or monopolies or excessively large units within the Industry and* (ii) *to ensuring that the number of Shipping Companies is no larger than economically adequate.*

(b) *To ensure a fair and equitable distribution, among existing companies and those yet to be established of trades which may hereafter be secured for Indian Shipping.*

(i) *Tonnage of the Leading Shipping Companies in the World.*—As already remarked earlier in this report, Indian Shipping carries only 25 per cent of the Indian coastal trade. It has practically no footing in the overseas trades of India. It will thus be easily realised that only meagre and insignificant share of the trade is carried by National Shipping. Out of over 20 million tons of cargo and over 3 million passenger traffic which constitute the maritime trades of India the tonnage on the Indian Register does not exceed 1·3 lakhs tons.* This tonnage can play only an insignificant part when the tonnage of the world today totals 80 million tons gross. The problem, therefore, is not one of imposing any restriction on the growth of Indian tonnage or on the development of any Indian Shipping Company; the crux of the problem lies in the fact that

* Although approximately 60,000 tons gross have recently been acquired for registration

Indian enterprise needs every possible encouragement to increase Indian tonnage for the carriage of Indian trades. It will therefore, be unwise to define at this stage, what an "economically adequate unit" would be or should be even if it were possible to do so. Shipping as an industry requires heavy initial capital outlay. It has to face competition from foreign flags and their powerful financial resources. It has to struggle against trade depressions and unfair competition, both from within as well as from outside the country. All these factors have to be borne in mind in determining what may be an "economically adequate unit" in the shipping industry. We do not find any justification under the existing circumstances for considering, much less deciding, the question.

We would, however, like to make it clear that there is no desire on our part to allow monopolies to be created. We are also not unmindful of the necessity of ensuring the existence and growth of small Indian Shipping Companies which are run on business lines and which are financially sound. It will be the responsibility of Government to see that such Shipping Companies are not driven out of the field either as a result of competition from outside the country or from within the country. If the Government of India were to discharge efficiently and effectively this responsibility of theirs, we have no doubt that Shipping Companies even with limited tonnage can have nothing to fear from other Shipping Companies however powerful they may be. It will be for the Government of India to decide how they should discharge this responsibility of theirs towards small Indian Companies in the maritime trades of India. We would, in this connection, like to give a brief outline of the disposition of the leading Shipping Companies in the world.

The tonnage on the Indian Register today is in the neighbourhood of 1·3 lakh tons gross. It is, therefore, essential that Government should lay all emphasis on how the Indian Companies can and should expand their fleets. There can be no justification, therefore, as already stated, of even considering the question as to what limitations and restrictions can be usefully imposed on Indian Shipping Companies in their growth from infancy to early adolescence and then to full manhood. It is indeed profitable and interesting, while considering this problem, to note the extent to which Shipping Companies in the different parts of the world have expanded their fleets. In none of the maritime countries of the world is there any legal or other bar against the expansion of tonnage owned by its nationals. As shipping is an international industry, we consider it our duty to invite the attention of the Government of India to this vital fact in the maritime activity of the world.

Appendix XVII gives particulars of the steamers and motor ships of 100 tons and upwards together with their aggregate gross tonnage owned by different countries in the world, in 1939-40 *(vide Lloyd's Register of Shipping, Volume II,* 1939-40,—*page 5, Statistical Tables.*) It will be noted that the total number of steamers was 29,763 and their aggregate gross tonnage was 68,509,432.

An analysis of the particulars given in the Lloyd's Register of Shipping 1939-40 and in Fairplay's Annual Summary of British Shipping Finance for the year 1939 shows that the aggregate of the tonnage held in different parts of the world by Companies owning a fleet of 50,000 gross tons and upwards amounts to 7,155 steamers and 33,774,689 gross tons *(vide Appendix XVIII).*

The position, therefore, is that out of a total gross tonnage owned in the world of steamers of over 100 tons gross amounting to 68,509,432 (a) those owned by Companies having a fleet of less than 50,000 tons gross was 34,734,743 and (b) those owning a fleet of 50,000 gross tons and over was 33,774,689. It will, therefore, be obvious that nearly 50 per cent of the tonnage in the world is owned by Companies which have a fleet of at least 50,000 tons gross. Several of them have got fleets far above 50,000 tons gross. A further analysis of the same figures reveals the fact that there are 105 companies in the world each

of which owns a fleet of 100,000 gross tons and upwards. The aggregate gross tonnage owned by these companies comes to 27,700,977 gross tons. This shows that nearly 40 per cent of the entire tonnage of the world is owned by companies each owning a fleet of more than 100,000 tons gross.

The tendency, therefore, is for shipping companies to own a large tonnage. Appendix XIX gives the names of 35 shipping companies in the different parts of the world each one of which owns a gross tonnage of over 200,000 tons gross. (*vide Lloyd's Register of Shipping, Volume* 1, 1939-40.) The aggregate total of these 35 companies comes to 12,694,188 gross tons. This is a little less than 19 per cent of the total tonnage owned in the world. 17 of these 35 companies individually owned a gross tonnage ranging from 201,157 to 280,325.

5 companies owned a gross tonnage from 309,658 to 324,738 each,

8 companies owned a gross tonnage from 400,463 to 469,223 each.

2 of these companies owned gross tonnages of 618,218 and 641,837 respectively

and the rest of them, *viz.* 3 companies owned a gross tonnage of between 721,388 and 790,199 each

It will not be inaccurate to draw from the statistics given above the conclusion that shipping companies usually consist of large units. The largest on record according to the Lloyd's Register of Shipping 1939-40, owned a gross tonnage of 7,90,199.

Apart from what is stated above, the position of the Shipping Industry in the different parts of the world, the tendency of the shipping industry to work with large units, the relative volume of the country's maritime trades, its need for defence, its strategic importance etc. should be carefully taken into consideration before any conclusion is arrived at in connection with terms 3(a) and (b) of the reference. There is another important point to which we would wish to draw attention. As stated above, shipping companies work with large units. Again, even these shipping companies with large units work in large groups. For instance, the most important groups of British Shipping are as follows:—

Name of the group	Total gross tons
P. & O. Group	2,100,720
Cunard Group	864,653
Ellerman Group	590 002
Furness Withy	571,828

(ii) *The Conference System, rate-cutting, deferred rebates etc.*—In Chapter II we have referred to the role of rate-cutting and deferred rebates. Shipping Conferences are, as their name implies, meetings of the representatives of independent and competing lines. A shipowning Company may belong to as many conferences as it has lines on different routes. With due notice a line can be withdrawn at will from a conference. There is nothing in common between such a conference and a combine of shipping companies linked by shareholdings. The majority of Shipping Conferences are international, in the sense that they consist of combines under various national flags. The essential principle of a conference is to give a well-regulated and timely service to the shippers and to charge them a uniform tariff of freight rates or passenger fares for the services rendered. The origin of conferences is to be found in the great increase in world tonnage about the time of the opening of the Suez Canal in 1869. At the outbreak of war in 1939 practically every liner route or 'trade' of any importance was operated by a conference of the shipping companies concerned. These conferences numbered some hundreds and according to the Imperial Shipping Committee there were at least 60 of major consequence. The entry of an American carrier into conferences is regulated by the American Shipping Legislation.

Deferred rebates are prohibited by Legislation in Australia, South Africa and the United States. The United States Maritime Commission have also powers

of intervention in cases of unfair rate practices and thereby defend American Lines in conference arrangements. There are again instances of the Australian Government having fixed freight rates, particularly for the carriage of coastal cargo.

We have pointed out that it is not possible for us at this stage to define what an "economically adequate unit" would be both in regard to the maximum tonnage the industry as a whole should possess and in regard to the maximum tonnage of an individual company. We feel that it would not be desirable to fix a tonnage limit for Indian shipping companies nor would we recommend the imposition of any restriction on them with reference to their capital structure. But, we would hasten to add that it is absolutely essential for the Government of India to empower the Shipping Board to control deferred rebates and to protect both the small concern and the consumer. Government may ask the Shipping Board to investigate into and report on any complaint about unduly high rates charged by Shipping Companies in the Coastal trade after it is reserved, as well as by Shipping Companies receiving any State help or patronage in the overseas trade of the Country. The Board should also take steps, whenever necessary, to protect Indian owners who are in conference arrangements. We do not wish to lay down the details of the manner in which the Shipping Board should exercise its powers, for it is necessary to make the Board's powers and function flexible in the formative stage of the growth of the Indian Shipping Industry. Even in the sphere of coastal shipping where the total tonnage operating at any particular moment of time would apparently be restricted to a maximum figure by the operation of the licensing system, the Shipping Board, while ensuring the free play of healthy competition, should at the same time prevent the promotion of economically unremunerative units and the use of devices like rate-cutting, deferred rebates etc. by larger groups in the industry to kill similar units and thereby acquire a monopolistic position.

(iii) *Division of the Trades between Indian Shipping Companies.*—The tendency in the modern world is that those who build up new industries by their capital, enterprise, skill and experience, should be encouraged to run them as efficient and economic units. They should have unrestricted scope to expand and work up to their fullest capacity. The development of civil aviation in India by Indian companies is an apt illustration of the principle to which we have just referred. This principle may be extended to shipping participating in the coastal trade of India. The Shipping Board can decide the extent of the tonnage that should be licensed for the carriage of the trades in the coastal waters of India. But, shipping becomes an international industry when it has to carry the overseas trades of our country. It will not be an easy task for any authority to determine the number of ships that a shipping company should confine its activities. Not that it is not possible to do so, but it has to be remembered that national shipping companies in the overseas trade will have either to work with or face the competition of the foreign shipping companies operating in the same waters. We do not, therefore, think that it would be wise or in the interests of Indian Shipping to fetter the activities of the Indian Shipping Companies in the carriage of overseas trade. That should not, however, preclude Government from utilising their influence and good offices in so distributing the trades that may be secured for Indian shipping amongst the old and the new Indian Shipping Companies as they might consider fair and equitable, after taking fully into consideration the status, energy, efficiency and the future possibilities of the different shipping organisations. We would not, however, like to lay down any definite basis on which distribution of the acquired trades should be made either amongst the existing or the future Indian shipping companies. We would rather leave it to the Shipping Companies to adjust this themselves, and if they fail to do so, Government should evolve suitable measures for the fair and equitable distribution of such trades after examining each case on its merits and as it arises.

CHAPTER VI.

SUMMARY OF RECOMMENDATIONS.

After giving an account of the place of shipping in maritime countries in Chapter I and tracing the history of the attitude of the Government of India towards national shipping in Chapter II we lay down the objectives of a national shipping policy for India in Chapter III. We strongly emphasise that India should adopt a national shipping policy similar to the policies adopted by the important maritime countries of the world (pp. 24-27). We define the term "Indian Shipping" as shipping *owned, controlled* and *managed* by the nationals of India (p. 28).

2. Proceeding on the generally accepted principle that a country should carry in its own national bottoms at least 50 per cent of her maritime trades, we recommend that the objectives of the future shipping policy in India should be to reserve for Indian Shipping the entire coastal trade of India and to secure adequate shares in other maritime trades (pp. 29-30).

3. In regard to state aid, our recommendations are that the Government of India should give financial aid to that section of the industry which partakes in India's overseas trade. As the licensing system recommended by us would naturally limit the tonnage operating on the coast this portion of Indian shipping need not necessarily be financed by state aid (p. 32).

4. In order to implement our recommendations it is vital that the Government of India should take immediate steps to set up a Shipping Board. The Shipping Board should be the spear-point of policy locally and internationally and should have powers to licence coastal vessels and to submit to Government proposals for the removal of all evils of monopolistic exploitation. The constitution and functions of this Board are described in pages 32-33.

5. Owing to a number of practical difficulties it is not possible for the Sub-Committee to lay down at this stage the specific target tonnage this country should eventually have and our recommendations constitute a programme of action for the next five to seven years only (p. 34).

6. We have pointed out the defects in the existing statistical data and the necessity for filling up the gaps. It would be advantageous to ask the Port Trusts to undertake this task of improving statistical data and for this reason and for the other principal reason that the shipping policy and all other questions relating to the ports should be dealt with in the same department, we recommend that the control over the Port Trusts should go over from the Transport Department to the Commerce Department. We recommend further that the shipping statistics should be separated from the trade statistics and published in a separate volume as is done in the U.K. (p. 35 36).

7. We recommend that hundred per cent, of the purely coastal trade of India, seventy five per cent. of India's trade with Burma and Ceylon and with the geographically adjacent countries, fifty per cent of India's distant trades and thirty per cent of the trades formerly carried in axis vessels in the Orient should be secured for Indian shipping in the next five to seven years (p. 39).

8. The consensus of opinion is that to carry the above cargo amounting to more than ten million tons a year and about three million passengers, India needs two million gross tons of shipping. This figure does not include country craft (p. 40). Negotiation with H.M.G. and British Companies, immediate acquisition of tonnage by Indian Companies to carry the food grains required to be imported into India, purchase of U.S.A.'s surplus ships and building in India and U.K. are the principal ways of acquiring the additional tonnage (pp. 40-42).

9. As the Indian Shipping industry is still very young, we feel that emphasis should now be placed on how Indian Companies could expand their fleets and

we have, therefore, stated that it is not possible at this stage to define what an "economically adequate unit" would be so far as this industry is concerned (p. 43). It would not be desirable to fix a tonnage limit for Indian shipping companies nor would we recommend the imposition of any restriction on them with reference to their capital structure (p. 45). But, as we are anxious to prevent monopolistic exploitation we have recommended that the Indian Shipping Board should be empowered to control deferred rebates, rate-cutting and all other evils arising from monopolies (p. 45).

10. Equitable division of trades between Indian shipping companies is essentially a matter of detail to be settled by the Companies themselves. If the Companies, however, fail to come to an agreement Government should evolve suitable measures for the fair and equitable distribution of the different trades (p. 45).

C. P. RAMASWAMI AIYAR—*Chairman.*

Members.

K. C. NEOGY

M. A. MASTER

A. H. GHUZNAVI

W. L. A. RADCLIFFE

R. DORAISWAMY, *Secretary.*

New Delhi, the 30th January, 1947.

MINUTE OF DISSENT BY SIR A. H. GHUZNAVI

What is Indian shipping? The discussions in the Sub-Committee seem to indicate that a majority of the Members meant by Indian shipping "shipping owned hundred per cent, controlled hundred per cent and managed hundred per cent, by nationals of India". I do not subscribe to this view, not because of any less patriotism than some of my colleagues, but because it is a short-sighted policy and will hamper the development of Indian shipping. More than 20 years ago, the Indian Mercantile Marine Committee defined the ideal Indian Mercantile Marine. Even according to that definition the ideal Indian Mercantile Marine was one where the ships owned by joint stock companies registered in India with a rupee capital, with a majority of Indians on the Directorate and a majority of the shares held by Indians, and with the management of the Company predominantly in the hands of Indians. This ideal was to be worked up to eventually. Though 25 years have elapsed, there is no reason to think that this definition does not equally hold good now. If an advance has to be made, it has to be in the direction of fixing minimum percentages of Indian ownership and management, and I suggest that that percentage should be 70 per cent, both with reference to capital and with reference to management, that is the Board of Directors controlling the policy of the shipping company.

2. There ought to be a sharp distinction drawn between Indian shipping companies operating on the coast and companies taking part in overseas trade. It is clear that the coastal trade would come increasingly under the control of Indian companies. It might even be possible to reserve the coastal trade to Indian registered and Indian owned companies. But Indian shipping is just about to enter into the deep sea trade, the continental trade—Europe, America and the Far East. Shipping companies, in spite of all the help that the Government of the country can give, will have to enter into negotiation with various other foreign shipping companies. These negotiation may take many forms and it may strengthen the hands of Indian shipping companies, if a certain proportion of the share capital and a certain percentage of the Directorate, not exceeding 30 per cent, as has already been stated, were to be held by foreigners on a reciprocal and co-operative basis. To put the rigid test of 100 per cent, capital and management is to deny ourselves the opportunity and the right to partake in a fair share of the trans-continental trade.

3. Nor is there really any substance in any apparently nationalistic view prescribing 100 per cent, ownership and management in Indian hands. Taking a realistic view, arrangements will have to be made and in the past have been made by even 100 per cent, owned Indian shipping companies with foreign companies. These are called tripartite agreements or conference line agreements. If nationalism can be diluted to the extent of coming to an arrangement for sharing the trade with foreign companies, I do not see any very great violation of principle in puritanic nationalism if a company were to permit a very minor portion of its capital to be owned by foreigners and give them a minor share in the management.

4. I am particularly concerned about overseas trade across the oceans and with the continents. As I have already said above, shipping companies have virtually little experience. They have to make contacts with exporters at other end, they have to invoke the aid, the support and the sympathy of the foreigners, situated in countries to which the ships will proceed. It will be little short of disastrous, if a shipping company were to imagine that, with Indian agency at the other end and an Indian head office in India, there will be smooth flow of trade through ships between two countries. Is it not the wiser course and is it not just another aspect of profit sharing if in the capital and management of the company itself a small share is given to the foreigners?

both in logic and from the realistic point of view, there seems to be no reason why the conditions that have been suggested by the majority of the Sub-Committee should be acceptable or would prove of any value.

5. It has been suggested that shipping is a key industry and therefore 100 per cent capital and management should be in Indian hands. I venture to think that there is no point in this suggestion. If Indians get trained, if Indians are largely employed in the industry, as they are bound to be, when 70 per cent of the capital is owned by Indians and 70 per cent of the Directorate are Indian and if the Companies are registered in India and come under the control of the Government of India, all the advantages accruing from the fact that they are key industries will be available. On the other hand, even if 100 per cent capital is Indian and 100 per cent Directorate is Indian there are cases now and there may easily be cases in future where the entire higher technical personnel is or may be foreign, and that Indians may have little opportunity of acquiring the skill and the training necessary to equip them for such positions. Moreover, I have not seen this argument about key industries being owned hundred per cent and managed hundred per cent by Indians extended to other undoubtedly key industries. Shipping or ship-building are not the only two key industries. The production of steel, the manufacture of heavy chemicals and heavy engineering industries are all key industries and it is a matter of common knowledge with reference to some of the biggest units promoted in these industries that not even the percentage of Indian capital and management which I have predicted are to be found. I plead therefore for a commonsense and realistic approach to this question and I suggest that the Sub-Committee and Government will be well advised to accept the proportions that I have indicated with reference to capital and management.

A. H. GHUZNAVI.

DISSENTING MINUTE OF MR. W. L. A. RADCLIFFE

Definition of "Indian Shipping".

With reference to the definition of "Indian Shipping" I am unable to accept the conclusions, in Chapter III, section 2. I would point out that while my appointment to the Committee was presumably by virtue of my being Managing Director of an Indian Shipping Company (a company holding probably the longest record as an Indian Shipping Company) and therefore primarily to advise on problems relating to expansion of Indian Shipping, I can obviously not subscribe to definitions which by their rigidity will disqualify my own Company from being considered "Indian Shipping", at the amelioration of which the deliberations of the Committee and the recommendations made in their report are exclusively aimed.

It is unacceptable to me that a Company which might fail to comply with each and every one of the qualifications suggested in the report should be held to be ineligible for consideration as an Indian Shipping Company.

If any case and without prejudice to the above contention, I maintain that a Company which is registered in India, and had been operating for nearly 3/4 of a century, which has helped the development of Indian overseas trades along routes which were new, and has arranged for hundreds of thousands of pilgrims to fulfil their sacred vows, cannot suddenly by a stroke of the pen, or the whim of an individual, be declared non-Indian.

The Mogul Line has not only a record of faithful service to India over a long period, but during the last 6 years of war its ships' personnel and higher staff were placed unreservedly at the disposal of the Government of India, both for the prosecution of the war against both Germany and Japan and in the carrying of essential foodstuffs on the Indian Coast. It will be appreciated that in carrying out these duties the line was (by virtue of being on the Indian Register) under the direct control of the Indian Government and will similarly be again at the disposal of that Government in any time of crisis or in any situation wherein the control and direction of Indian Shipping is to be in the hands of the Government of India.

Whatever therefore may be decided regarding the definition of an "Indian Shipping Company" and what constitutes "Indian Shipping", such definition and any restrictive conditions laid down should only affect future floatations and companies to be formed thereafter. It would be grossly inequitable if they were to be applied retrospectively.

W. L. A. RADCLIFFE.

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APPENDIX I

INDIAN MERCANTILE MARINE COMMITTEE 1923-24

(*a*) *Terms of reference*—

To consider what measures can usefully be taken :—

(1) for the liberal recruitment of Indians as Deck or Executive officers and Engineers in the Royal Indian Marine ;

(2) for the establishment of a Nautical college in Indian waters for the purpose of training Executive officers and Engineers of ships ;

(3) for ensuring the entertainment of Indian apprentices for training as such officers and engineers in the ships owned by shipping firms that enjoy any subsidy or other benefits from Government on any account and for the creation of an adequate number of state scholarships for providing instruction in the Nautical Colleges and Training Ships in England pending the formation of a Nautical College in India ;

(4) for the encouragement of shipbuilding and of the growth of an Indian Mercantile Marine by a system of bounties, subsidies and such other measures as have been adopted in Japan ;

(5) for the acquisition of training ships by gift from the Imperial Government or otherwise ; and

(6) for the construction of the necessary dockyards and engineering workshops in one or more ports.

(*b*) *Recommendations*—

I *Reservation of coasting trade* by a system of Licenses, which should be issued on the follwing conditions :—

(1) To no foreign ship except in so far as protected by treaty rights.

(2) To any ship flying the British flag, provided that—

(*a*) It has been regularly engaged on the coasting trade during the preceding twelve months and is not more than 25 years' old ;

(*b*) The owner undertakes to take Indian apprentices and Indian executive engineer officers, on scales recommended in Chapter II ;

(*c*) The licence shall continue only until the ship has reached the age of 25 years.

(3) Any ship hereafter seeking to enter the coasting trade shall comply with the following conditions :—

(*a*) The ownership and controlling interests shall be predominantly Indian, *viz.*,—

(*i*) Registered in India ;

(*ii*) Owned and managed by an Individual Indian, or by a company registered in India with rupee capital, with a majority of Indians on its Directorate and a majority of its shares held by Indians ;

(*b*) Some undertaking regarding Indian apprentices and officers as in condition (2) above.

(4) The licensing authority to have discretion to waive all or any of the conditions during periods of stress and to issue permits to any ship flying the British flag.

(5) The licensing authority to have power to take such steps, with the approval of the Government of India, as may be considered advisable to deal with deferred rebates, rate wars, or any other conditions which act unduly as a restraint on trade.

II *Purchase by Government of one of the existing British lines* operating on the coast, and eventual transfer by sale to approved Indian owners.

It is anticipated that purchase will be facilitated by the restrictions imposed on the coasting trade by the licensing system.

III. *Bounties* and other forms of State aid are not now recommended. But bounties may be considered subsequently for purely Indian shipping companies engaged in overseas trade

IV. *Mail subsidies.*—As a general principle, the most economical tender, having regard to regularity and speed, should be accepted. But if the licensing system is not adopted, mail contracts in which the whole subsidy is paid by India, should include a stipulation to take Indian apprentices on the scale recommended for the licensing system.

V. *Section 736 of the English Merchant Shipping Act, 1924.*—It is considered that the licensing proposals do not conflict with section 736. But if the law officers of the Crown hold otherwise, then either the Act should be amended ;

or Indian owned and Indian managed ships should be assisted by

(1) bounties;

(2) mail contracts ;

(3) carriage of Government stores ;

whether in the coasting or in overseas trade.

APPENDIX II

Record of the First Meeting of Policy Committee No. 4-C on Shipping held at Bombay on the 7th December 1944

AGENDA

MEMORANDUM ON POST-WAR SHIPPING POLICY

For a country of its size, the length of its coastline and its strategic position athwart one of the world's main sea routes, India possesses a distressingly small number of deep sea ships which at the outbreak of war stood at no more than 30 with a total of less than 150,000 tons gross. India's weakness in this respect has long been recognized, and the Government of India are pledged to a policy of assisting in the development of an Indian Mercantile Marine. So far, however, the action taken to implement this undertaking has been limited to the establishment of the "Dufferin" for the training of executive officers, the provision of special facilities for the training of marine engineers and to using Government's good offices to promote a settlement between the Indian and British companies operating on the coast with regard to the division of the available trade between them.

The vulnerability of India's position has been revealed by the stress of war time conditions, but by no circumstances more glaringly than by her inability to find adequate shipping from her own resources to provide for the transport of the food supplies required by her. The rectification of this state of affairs should be one of the immediate post-war objectives, not only for commercial reasons but also because the development of the Royal Indian Navy necessarily implies the concurrent development of the merchant navy.

The acquisition of an adequate share in the world's carrying trade should be the aim of our post-war shipping policy, and to this end steps should be taken to secure for Indian shipping—

(*i*) an increased share of the coastal trade, including trade with Ceylon and Burma (The present share is estimated at between 20—30 per cent.) ;

(*ii*) a substantial share in the near trades, *e.g.*, Persian Gulf, East Africa, Malay and Dutch East Indies ; and

(*iii*) a fair share in the Eastern trades, especially those trades of which Japanese shipping will have been dispossessed ;

(*iv*) a fair share also in the trade between India, on the one hand, and the U. K., the Continent of Europe and North America on the other; and

(*v*) In order to give maximum relief to the railways, a number of steps have been taken to ensure the fullest utilization of country craft and to prevent wasteful competition between country craft and steamers. As India may have to look to all forms of transport to sustain her economy in the post-war era the continued development of country craft will have to be considered. Co-ordination of steamer and country craft services is an essential part of this development subject to due regard being paid to the different needs served by steamers and country craft.

MEMBERS PRESENT

Representatives of the Government of India

The Honourable Sir Muhammad Azizul Huque, Commerce Member (*Chairman*).

Mr. J. H. Thompson, Resident, Kolhapur.

The Honourable Mr. Ram Chandra, Secretary, Commerce Department.

Mr. S. R. Zaman, Joint Secretary, Commerce Department.

Mr. Y. N. Sukthankar, Joint Secretary, Commerce Department.

Mr. L. T. Gholap, Controller of Indian Shipping.

Mr. T. M. S. Mani, Deputy Secretary, Planning and Development Department.

Mr. A. S. Lall, Deputy Secretary, Finance Department.

Lt. Commander Bainbridge, Representative of the R. I. N.

Representatives of Provincial Governments

Mr. J. M. Balmforth (Madras).

Mr. E. W. Perry, Mr. M. J. Antia } (Bombay).

Dr. N. Das (Bengal).

Mr. J. P. David (Orissa).

Representatives of Indian States

Sir C. P. Ramaswami Aiyar (Travancore).

Mr. S. V. Mukerjee (Baroda).

Non-officials

Mr. Walchand Hirachand.

Mr. M. A. Master.

Mr. Habib Ibrahim Rahimtoola.

Mr. K. C. Neogy.

Khan Bahadur M. Shahban.

RECONSTRUCTION COMMITTEE OF COUNCIL

RECORD OF FIRST MEETING OF POLICY COMMITTEE No. 4-C ON SHIPPING

The Hon'ble the Chairman in his opening address stated that his object in convening the meeting was to obtain some guidance from the members as to the lines on which the Government of India should proceed in regard to the post-war development of the Indian Mercantile Marine. The main objectives of the Government of India in this matter in the past were well-known and needed no reiteration but the whole situation had to be reconsidered in the light of existing circumstances and possible developments during the postwar period.

Continuing the Chairman stated that he was anxious that the Government of India's policy in regard to shipping should be formulated as early as possible and he explained that the discussions at the meeting would more or less be of an exploratory nature intended to assist them in deciding what should be their objectives and what should be the methods to reach those objectives. A brief memorandum had already been circulated to members in which an indication was given roughly as to the lines on which further action could be considered but the matter was a very important one and the financial, technical and other aspects had to be considered in all their details. The Government of India therefore felt that before formulating their policy, they should get as much lead and light as possible from those who were not only interested but who were also actively connected with the question.

The Chairman accordingly invited a discussion of the whole problem in its general aspect and he indicated that on the basis of the suggestions made by members the Government of India would collect any necessary data and furnish the next meeting with sufficient material to enable it to arrive at decisions on the policy to be adopted.

2. *Mr. Walchand Hirachand* after referring to the efforts of India in the past to build up a National Mercantile Marine and to the assurances given by the Government of India from time to time in regard to the development of such a marine, complained that the Government of India had not actually fostered any national shipping policy. He expressed satisfaction, however, that the memorandum indicated a change in their attitude and considered that the constitution of the shipping policy committee was a courageous step in the right direction. He hoped that their endeavour to secure for Indian Shipping an adequate share in the world's carrying trade would result in the building up of a powerful National Merchant Navy during the post-war period.

He attached great importance to the Indian Merchant Navy being of a national character and asked what was really meant by term 'Indian Mercantile Marine'. The test in his view must be that it must be owned, controlled and managed by Indians. He referred to various official pronouncements in the past which supported this view but in view of the representation granted to certain interests on the committee he requested that the point should be clarified.

Mr. Walchand then alluded to the reference in the Memorandum to the securing of an increased share for Indian Shipping in various trades and wished to know whether any distinction was meant by the use of the term "substantial share" in connection with certain trades and the term "fair share" in connection with certain others. He also wished that an indication should be given by Government of the extent to which Indian shipping would be able to participate in the various trades and he himself suggested that the whole of the coastal trade, 66 per cent. share of the trade with adjacent countries, not less than 50 per cent. of the overseas trades such as trades with U. K., America etc., and not less than 33 per cent. of the trades in the Orient should be secured for Indian Shipping in the post-war period. He referred in this connection to assurances given on behalf of H. M. G. to assist the British Merchant Navy and pleaded that the Government of India should similarly announce a clear and courageous policy regarding the manner in which they proposed to assist national shipping to achieve the objectives laid down.

He next touched on the lack of adequate shipbuilding facilities in India and the difficulty of obtaining ships from other countries. Losses had been suffered by Indian companies as a result of the use of their ships by Government for purposes of the war but Government did not give them any ships to replace those which were lost and the shipowners were unable to build any new tonnage. The problem of replacement by new building was an extremely serious one especially in view of the very high increase in war time costs of construction and the wide disparity between such costs on the one hand and the war risk recoveries of lost ships or the available amount of depreciation of obsolete ships on the other. The importance of this problem was realised in U. K. where assurances have been given to shipowners on behalf of Government that the question would be considered by the latter with sympathy. Mr. Walchand expressed the hope that the Government of India would also take prompt, adequate and effective action to build up a powerful mercantile marine and he requested that the committee should be informed as to what steps were proposed to be taken by Government to provide India with additional tonnage.

He emphasised the importance of securing conditions for the economic and efficient running of Indian ships in the post-war period. The provision of a large number of ships would not by itself solve the problem of building up a merchant navy as an excess of tonnage over demand on any trades might result in unhealthy and cut-throat competition. It was of fundamental importance for the extension of activities of the Indian merchant navy both in the coastal and overseas trades that Government should ensure both by negotiations as well as by any necessary help the maintenance of freights at an economic level and secure by all possible means the conditions necessary for the healthy and economic operation of Indian ships in the trades concerned.

Mr. Walchand lastly referred to certain international forces which were bound to affect the development of national navies after the war. Since the beginning of 1942 America had built a huge merchant fleet for requirements of the war and the disposal of these ships and their allocation after the war was bound to present an intriguing problem. On the other hand there were countries like India which had a large international trade but possessed a very small merchant navy. Such an unequal balance of ownership must be effectively rectified in the post-war period and re-adjusted to suit the just requirements and obligations of individual countries. There was also the International control of shipping Agreement under which the signatory Government bound themselves to pool their available shipping to meet all military requirements during the war and also any special requirements that might arise at the end of the war. If India were to become a party to the Agreement it was important that her needs and requirements should be recognised and for the same reason the Government of India would have to be very vigilant at the Peace Conference and ensure that nothing was done which would militate against her acquiring the sea power which she needed. There was a possibility of conflict of national points of view at the Peace Conference and it was important to ensure that highly industrialised countries like the U. K. and America recognised the imperative need of giving the fullest opportunity to other countries to develop their industries and merchant marines. In conclusion Mr. Walchand pleaded that the Government of India should give their closest and sympathetic thought to the various problems and asked for an assurance from the Government of India that non-official representative Indians enjoying the confidence of the country would be sent to the Peace Conference.

3. *Sir C. P. Ramaswami Aiyar* welcomed the attention paid to the important subject of shipping and urged the importance of building up a strong mercantile marine in India. He referred to the severe competition from foreign and British interests which Indian shipping companies had had to face in the past and also to the possibility of international competition being enhanced rather than diminished after the war in an attempt on every side not only to recapture the prosperity of the past but also to augment that prosperity.

He next dealt with the policy adumbrated in other countries. The U. S. A. aimed at owning some 13½ million gross tons and carrying by American vessels of 70 per cent. of America's foreign trade. The British objective was that Great Britain must continue to serve the world with a large and efficient mercantile marine. The 'Economist' suggested that "Empire shipping should carry the total Empire trade and have all the trade within the Empire and foreign countries" and indicated that "this would necessitate 17½ million tons of Empire shipping". There was no doubt that Britain and the Dominions would attempt to secure for themselves a substantial proportion of the world's tonnage and the claims and needs of India would arise concurrently with or even ancillary to the development of British and Dominion shipping. It would be the duty of the Government of India to see that no consideration stood in the way of a mercantile marine being developed either by building or by purchase or by such mutual adjustments between England and India as may be necessary. This was however going to be a matter of compromise and adjustment between conflicting interests and it would be the duty of the Government of India to see that an International and Commonwealth temper was secured which would enable claims of equity to be recognised.

There was a flourishing shipbuilding industry on the West coast of India during the 18th century but that industry had since vanished. Travancore and Cochin were recently faced with a distressing food situation and although food grains were made available from other parts of India, the railways could not transport them and there was an acute shortage of shipping. As a result of the war conditions the exports and imports of the State had also to be moved by backwater *via* Cochin. All the above circumstances forced the two States to embark on considerable country craft construction and they aimed at further construction to meet the requirements of the post-war period. The Government of India should stimulate the building of vessels in this country with the talents and material available and Cochin and Travancore were prepared to offer their co-operation in any scheme of development of the Indian mercantile marine.

Concluding Sir Ramaswami Aiyar emphasised the importance firstly of a mercantile marine for the future prosperity and progress of India and secondly of the Government of India insisting on India getting an adequate share of the world's mercantile marine.

4. *Mr. S. V. Mukerjee* dealt with the various difficulties which had to be faced by Indian shipping. There was the provision in the Government of India Act which ruled out the reservation of coastal trade for Indian shipping. British commercial and shipping interests which were well-established in major ports mutually supported each other and Indian companies found it difficult to challenge or enter this established sphere of influence and this incidentally made it difficult for minor ports like those in Baroda to rise in status or serve the country's economy. There was aso absent in the policy of the Government of India and that of the States ahy kind o encouragement of Indian shipping companies by the grant of bounties, subsidies or other similar assistance.

He suggested that legislation should be passed laying down that 50 per cent. of the total trade should be carried only in bottoms owned by Indian capital and manned by at least 50 per cent. Indian Officers, and that the legislation should discriminate between trade carried on in Indian and British vessels as against foreign vessels. It was also necessary to encourage inland river transport and railways c uld promote this by pursuing a policy of owning ships. Facilities should be given to Ind an companies for expeditious building of ships in England. An all India zonal agreement by which ports could be developed was also desirable. A Transport Board of an all India character which could reconcile British, foreign and Indian interests as regards foreign and coastal trade and to co-ordinate rail, river and sea transport interests should be formed.

In concluding Mr. Mukerjee suggested that a well-defined policy of encouraging Indian shipping to supplement British shipping should be laid down and that Indian interests should be given the same help as British shipowners got from H. M. G. in the past to expand their tonnage and trade throughout the Empire.

Mr. Mukerjee also supported the encouragement of country craft traffic and of the shipbuilding industry on the west coast of India.

5. *Mr. K. C. Neogy* in recapitulating his experience referred to the rate wars on the coast and to the arrangements which now exist to prevent rate wars in inland waterways. He also mentioned his experience in regard to Mr. Haji's Coastal Reservation Bill and the opposition that it had from Government as well as from certain other interests. He assumed that the memorandum represented the views of the Commerce Department but he wished to know whether having regard to the constitutional limitations, there was any chance of substantial action being taken on the programme contained in the memorandum and what programme the Government of India proposed to place before International conferences relating to shipping. He also wished to know whether India would have a free hand in dealing with shipping questions and whether H. M. G. had given any assurance that the Government of India would be allowed to carry out their programme. He further desired to know whether any discussions had taken place on the subject between India and other parts of the Empire.

Mr. Neogy then dealt with the point raised by Mr. Walchand Hirachand, regarding the development of a national mercantile marine and enquired whether the committee had necessarily to plan on the basis of the restrictions in the Government of India Act or whether they could plan their programme on the basis of a more liberal future constitution. He further wanted to know whether the Commerce Department had formulated any ideas regarding the different forms of assistance to be granted to Indian shipping. He also supported the views put forward by Mr. Walchand Hirachand regarding the extent of the trade the Indian merchant navy should be allowed to handle but he opposed Mr. Mukerjee's suggestion that Indian shipping should be developed as a supplement to British shipping.

6. *Dr. N. Das* stated that the Bengal Government would endorse any action taken by the Government of India in implementing the proposals in the memorandum. He also mentioned that his Government had adopted the policy of building country craft and that all wasteful competition that previously existed in Bengal had been eliminated.

7. *Mr. E. W. Perry* said that he had no instructions from his Government but he personally agreed with what Mr. Walchand Hirachand had said and suggested that a date should be fixed from which coastal shipping would be reserved for Indian shipping.

8. *Sir C. P. Ramaswami Aiyar* suggested that in defining Indian Coastal trade the territorial ambit of the trade should be borne in mind and that the Persian Gulf on the one side and Malaya on the other should for instance be included in the legitimate zone of Indian coastal shipping.

9. *Mr. Balmforth* suggested that consideration should be given to the cutting of a canal through Pamban which would save shipping some 400 miles or 2 days' steaming.

10. *The Chairman* thanked the members for the valuable contributions they had made. They had met to collaborate and he did not propose to reply to all the individual points raised during the discussions. He agreed that the whole question of post-war development had to be considered from the point of view of the future Government of the country and he emphasised that the future of India would largely depend on the line taken at the present time. India had in the past played a notable part in shipping and had built ships for centuries but we were ourselves responsible to some extten for the present position of Indian shipping. He did not minimise the importance of country craft and was fully alive to the part played by modern steamships in the world economy but in planning for the future it would be a mistake to replan only on a machine basis.

Replying to some of the points raised he stated that he had no intention, in making nominations to the committee, of giving representation to sectional interests and that he had only tried to secure the best talents available in the country to advise him. He did not then wish to enter the controversial ground of attempting to define what was meant by the term 'Indian Mercantile Marine' and he would try to supply a definition at a later stage. No special distinction was also meant by the use of the terms 'substantial share' in one place and 'fair share' in another in the memorandum and he would like to invite views as to what would be fair shares of the various trades for Indian shipping.

He laid considerable stress on the building of country craft and India had talent for building them but a stage had now been reached in which unless steps were taken early to create talent for building modern ships, difficulties would be experienced and foreign assistance would be necessary.

In regard to international commitments the Chairman explained that the Government of India had merely expressed their agreement to the principles of the Agreement proposed and that they had not committed themselves to the details of any action to be taken.

He could not deny that under existing circumstances they had to work under the Government of India Act but whatever the constitutional limitation H. M. Government had been quite helpful in developing India on the lines on which she was thinking of her progress. The views given in the memorandum were purely tentative but if they received support the details would be worked out and other Departments concerned would be consulted.

The Chairman in conclusion thanked the members for their assistance and stated that he hoped that at the next meeting they would be able to get down to discussing more definite items.

Sir C. P. Ramaswami Aiyar mentioned that members often got very short notice of meetings of the various Reconstruction Committees. He also suggested that the Government of India should decide at least the main questions of policy before they met again and in particular he urged the necessity of settling the policy in regard to reservation of coastal trade.

The meeting then terminated.

Record of the Second Meeting of Policy Committee No. 4-C on Shipping held at New Delhi on 26th October 1945

AGENDA

1. Chairman's opening speech.

2. Appointment of a Sub-Committee, with the following terms of reference :—

"To consider the Departmental Statement on Post-war Shipping Policy, and in the light of that statement and all relevant considerations, to recommend—

(1) what would be a suitable tonnage target for Indian shipping, to be attained within a period of five to ten years ;

(2) What percentage shares of the trades in which India is interested, both coastal and overseas, cargo and passenger, should be secured in order to provide full employment for Indian shipping ; and

(3) what measures should be taken—

(*a*) to regulate the shipping industry with a view

(*i*) to preventing the formation or establishment of combines or monopolies or excessively large units within the industry ; and

(*ii*) to ensuring that the number of shipping companies operating is economically adequate but no larger ; and

(*b*) to ensure a fair and equitable distribution, among existing companies and those yet to be established, of trades which may hereafter be secured for Indian shipping.

The Sub-Committee will be competent to make such other recommendations as seem germane to the subject".

3. Any other business which may be brought forward with the permission of the chairman.

MEMBERS PRESENT

Representatives of the Government of India

The Hon'ble Sir Muhammad Azizul Huque, Commerce Member (*Chairman*).

The Hon'ble Sir Ardeshir Dalal, Member for Planning and Development.

The Hon'ble Mr. N. R. Pillai, Secretary, Commerce Department.

Mr. V. N. Rao, Additional Secretary, Finance Department.

Mr. H. V. R. Iengar, Joint Secretary, P. and D. Department.

Mr. L. T. Gholap, Controller of Indian Shipping.

Mr. E. S. Krishnamoorthy, Deputy Secretary, Commerce Department.

Lt. Commander A. P. Hume, Representative of the R. I. N.

Prof. C. N. Vakil, Economist, P. and D. Department.

Representatives of Provincial Governments

Dr. Mahanty (Orissa).

Non-Officials

Sir R. K. Shanmukham Chetty.

Mr. Walchand Hirachand.

Mr. M. A. Master.

Mr. W. L. A. Radcliffe.

Mr. Habib Ibrahim Rahimtoola.

Mian Ghulam Khadir Mohd. Shabhan.

SUMMARY OF THE RECORD

It was decided to appoint a sub-committee with the following terms of reference :—

"To consider the Departmental Statement on Post-war Shipping Policy, and in the light of that statement and all relevant considerations, to recommend—

(1) what would be a suitable tonnage target for Indian shipping, to be attained within period of five to ten years ;

(2) what percentage shares of the maritime trades of India and other trades in which India is interested, both coastal and overseas, cargo and passenger, should be secured for Indian shipping ; and

(3) what measures should be taken—

(*a*) to regulate the shipping industry with a view (i) to preventing the formation or establishment of combines or monopolies or excessively large units within the industry and (ii) to ensuring that the number of shipping companies is no larger than economically adequate ;

(*b*) to ensure a fair and equitable distribution, among existing companies and those yet to be established, of trades which may hereafter be secured for Indian shipping.

The sub-committee will be competent to make such other recommendations as seem germane to the subject."

It was also decided that the constitution of the sub-committee should be as follows :—

Sir C. P. Ramaswami Aiyar (*Chairman*).

Mr. M. A. Master.

Mr. K. C. Neogy.

Sir A. H. Ghuznavi.

Mr. W. L. A. Radcliffe.

Record of the Second Meeting of Policy Committee No. 4-C on Shipping

The Hon'ble Sir Muhammad Azizul Huque (Chairman of the Committee) in his opening address said :—

The rapid march of events since we last met, culminating in the final victory of the allied arms, has, in every country, quickened the pace of planning in every sphere of economic activity. The post-war period is no longer a long-awaited epoch of the future we have crossed its threshold and can now command a near view, in their varied proportions, of the problems which many have so far been content to regard as the cares of distant day. Faced as we are with the urgency of these problems, we can no longer express ourselves in purely abstract terms but must attempt to give precise and concrete definition to the many issues of policy and execution which remain unsettled.

2. In the sphere of shipping, the particular sector of the national economy with which this Policy Committee is concerned, there will, I have no doubt, be complete agreement on the broad objectives of our future policy. Shipping with all that it means in the world of today, as one of the most vital elements in the economic and strategic life of a country, must necessarily be a matter of fundamental importance to the future pattern of our country, and the expansion of Indian shipping to the fullest practicable extent is the goal which we all wish to see attained. Gentlemen, the time has now come to discuss between ourselves in greater detail our future shipping policy. Expressed in more concrete terms, we in the Commerce Department had prepared early this year a brief statement of the broad objectives to be kept in our view, and this was published as part of the Second Report on Reconstruction Planning. I wish to take this opportunity to bring these objectives to your notice today :—

"For a country of its size, the length of its coast-line and its strategic position athwart one of the world's main sea routes, India possesses a distressingly small number of deep-sea ships, which at the outbreak of war stood at no more than 30 with a total of less than 150,000 tons gross. India's weakness in this respect has long been recognised, and the Government of India are pledged to a policy of assisting in the development of an Indian Mercantile Marine. So far, however, the action taken to implement this undertaking has been limited to the establishment of the "Dufferin" for the training of executive officers, the provision of special facilities for the training of marine engineers and to using Government's good offices to promote a settlement between the Indian and British Companies operating on the coast with regard to the division of the available trade between them.

3. The vulnerability of India's position has been revealed by the stress of war time conditions, but by no circumstance more glaringly than by her inability to find adequate shipping from her own resources to provide for the transport of the food supplies required ojbher. The rectification of tbis state of affairs should be one of the immediate post-war by ectives, not only for commercial reasons but also because the development of the Royal Indian Navy necessarily implies the concurrent development of the Merchant Navy.

4. The acquisition of an adequate share in the world's carrying trade should be the aim of our post-war shipping policy, and to this end steps should be taken to secure for Indian shipping—

(*i*) an increased share of the coastal trade, including trade with Ceylon and Burma (The present share is estimated at between 20 to 30 per cent.);

(*ii*) a substantial share in the near trades *e.g.*, Persian Gulf, East Africa, Malaya and Dutch East Indies; and

(*iii*) a fair share in the Eastern trades, especially those trades of which Japanese Shipping will have been dispossessed;

(*iv*) a fair share also in the trade between India, on the one hand, and the U.K., the Continent of Europe and North America on the other."

We have now before us the important task of working out in a practical form the degree of expansion to be aimed at in the course of the next few years, the measures to be adopted to ensure the development of Indian shipping on sound lines and a number of related questions both of principle and of detail. To this task we must now address our selves. It was for this purpose, gentlemen, that we meet here this morning, and I should like to take this opportunity of thanking you for the trouble you have taken to attend this meeting.

Let me first tell you briefly what Government, for their part, have been doing in recent months. Not till many years ago, the attitude of Government had been that the apportionment of the available carrying trade between Indian and British shipping interests is a matter for adjustment between the companies concerned by the method of negotiation and agreement but that Government would at all times be prepared to use their good offices to promote a settlement between the parties. This policy had undoubtedly yielded results in the past. But the world situation today is quite different from what it was in the past and Government recognize that in present conditions they might justifiably be expected to take a more active part in the taking of initiative to secure an enlargement and expansion of the sphere of Indian shipping. It is well known that in many of the trades in which Indian shipping already participates, or will in future wish to participate U. K. shipping has at present an exclusive or predominant interest. If unhealthy competition and senseless trade rivalries are to be avoided in future—and we have had some bitter experiences in this matter—it seems essential that an endeavour should be made to come to an arrangement with U. K. interests which would provide for the fullest possible opportunities for Indian shipping. For over a year we have therefore been actively engaged in preparing the preliminary details of the varying phases of our future shipping problem and policy. The Commerce Secretary had also some informal and tentative discussions with the appropriate authorities during his visit to London last winter. The Government of India are for the present in close touch with H. M. G. in the matter, and I hope it may be possible to arrange for discussions on a more formal basis in the next few months.

At the same time I do not wish to minimise in the least the difficulties that lie ahead of us. As I see the picture today, with the exhaustion of her oversea investments and with her huge new external indebtedness, Britain will probably try to place greater reliance than in the past on her shipping which has been the greatest of her export trades. It is possible that others with their resources and shipping power may try to enter the shipping arenas which were not frequented by them in the past. We have also other manifest difficulties almost in our immediate front-line. With such competing, conflicting or limiting factors, the framing of our future shipping policy would not be an easy task. But our claim is just and fair, and we have faith and determination in our purpose. Having regard to our broad objectives to which I take it we are generally agreed, we must now proceed to the evolving of our future plan, policy and programme and to the preparation of a detailed statement of our case with utmost care and deliberation. We should proceed without any delay to the consideration of all these matters. For this purpose I shall propose after the general discussion is over, the appointment of a sub-committee with appropriate terms of reference, and I trust that the proposal will be acceptable to you all.

Gentlemen, we have made it quite clear, even though in most general terms, that the Government propose to follow a forward policy for Indian shipping. Happily there are Signs visible already in the country of a wakeful response to this new policy of Government. There has been within the last few months a heavy flow of capital into the shipping industry and various companies have been or are being floated to acquire new shipping tonnages in the future. Public opinion also in this country has on more than one occasion been unequivocally clear that India must now pursue a forward shipping policy, consistent with her economic and strategic interests in the future world order. For myself I cannot think of any future for this country without a strong mercantile marine and a strong navy. I have no reason to believe that we shall lack any of the resources, talent and personnel necessary for our mercantile marine or for our navy. For centuries past ships built in the yards of India had been famous in the blue waters of the world, and we were then able to build ships for the requirements of others. Our seamen had for centuries been renowned for taking their vessels even to the most turbulent oceans of the world. We have hereditary talents in our country, and even though in the past they had more or less been engaged in pursuits outside the complex mechanism of modern science, the achievements of India's craftsmen, artisans, designers, technicians, research workers and scientists in the vast range of war production must prove beyond shadow of doubt that India's talents even without any of the previous experience are second to none even in the works of highest scientific precision, and they were able to show a remarkable degree of production records in most complex precision and superfinish works with utmost skill and ability. I have therefore, no reason, to have any doubt in our ability and talent to build up or man our navy or mercantile marine.

Gentlemen, this is therefore an outline of the task bofore us. With others in the Commonwealth planning for their future shipping strength, India has a just and rightful claim for a proper and adequate share of the shipping tonnage. Without a strong mercantile marine and a strong navy, political freedom for this country may ultimately provide to be a mere shadow without substance. Meeting once a distinguished foreigner who was over and over speaking about his anxiety for the political freedom of India, I asked him if he would be prepared to give us a few of the ships which his country could easily spare, of course, on receipt of their proper value, and leave us to settle for ourselves our own political freedom. That is now I feel about our future and about the place of shipping in the future of our country.

In conclusion, I must express my regret that it had not been possible to have this meeting earlier as was originally intended. But you are aware of the reasons for the unavoidable delay. I had then hoped that the task of formulating this policy and programme would soon be taken up by those who would proceed to their task without being told by any one that their place in the Government was not as representative of the people as is understood in a democratic or parliamentary form of Government. But the map of this country for the last few months is well known to you, and I am now required to continue to bear my responsibility and share in the framing of our policy in the most unenviable situation of one who will probably be told, even in matters where he stands by the best interests of the country, that he can never do right. I trust, however, at least, you gentlemen, will understand the position and help me in my task, and I look forward to your wisdom, judgment and experience in tackling this most difficult problem and to your help and assistance. I would not like in any event to say a word, either in anger or in retort, to anyone who may probably criticise me or my action on the ground that I do not form a part of what would be termed a responsible Government; I have no doubt that when the turmoils of the moment pass away and the events of today are valued in the cold scrutiny of history, even these critics will find that I have tried to serve the best interests of the country and her people in a most critical period of her history.

Item No. 2 on the Agenda

The Chairman proposed that a sub-committee be appointed as indicated in item 2 of the Agenda. He also proposed that the following slight changes be made in the terms of reference as circulated :—

(*i*) In para. (2) the words "in order to provide full employment" should be omitted

(*ii*) In para. (3) (*a*) (*ii*), for the words "economically adequate but no larger" the words "no larger than economically adequate" should be substituted.

(These changes were agreed to)

Mr. Master suggested that in para. 2 of the draft terms of reference, for the words 'what percentage shares of the trades in which India is interested" the following be substituted :—

"What percentage shares of the maritime trades of India or other trades in which India is interested"

He explained that the amendment was designed to bring out clearly the object in view, namely, to include trades which could not strictly be regarded as the maritime trade of India, *e.g.*, trade between ports outside India which had been catered for by Japanese shipping but in which nevertheless India might be interested. Mr. Master also suggested that the following words should be added at the end of para. (3) (a) :—

"With due regard to the practice and position obtaining in this connection in other maritime countries in the world".

He explained that as the sub-committee was being asked to consider measures to regulate the shipping industry with a view to preventing the formation of combines or excessively large units, the committee would necessarily have to consider the practice and position obtaining in these matters in other countries.

The Hon'ble the Chairman stated that he was prepared to accept the first of the two amendments proposed by Mr. Master but not the second, which was restrictive in character; the terms of reference as originally suggested were wider in scope and it was open to the sub-committee to consider the position in other countries also.

(The first amendment proposed by Mr. Master was agreed to).

The Chairman next proposed that the following should be appointed members of the sub-committee—

Sir C. P. Ramaswami Aiyar,

Mr. M. A. Master,

Mr. K. C. Neogy,

Sir A. H. Ghuznavi, and

Mr. W. L. A. Radcliffe.

He added that he would have liked to suggest the name of Sir Shanmukham Chetty also but he thought that Sir Shanmukham might not have the time to undertake this work.

Mr. Walchand Hirachand suggested that as Chairman of the Tariff Board, Sir Shanmukham Chetty could take part in the discussions of the sub-committee if he liked.

(The proposal of the Chairman was agreed to.)

The Chairman said he was anxious that the sub-committee should submit its report as quickly as possible but as the sub-committee would have to depend on discussions with other bodies, he suggested that in the event of likely delay in submitting the final report, a preliminary report might be submitted by the middle of January.

Mr. Master next touched on one or two general points affecting shipping. He referred to the financial and other assistance given to the industry in other countries and enquired if it would be open to the sub-committee to consider this aspect in relation to Indian shipping.

The Chairman stated that this matter would come within the scope of the last clause of the terms of reference.

Mr. Master then referred to the impending dissolution of the United Maritime Authority and the reported convening of an International Shipping Conference in April 1946, and suggested that before any arrangement or international understanding was arrived at, whether in the nature of a pool or limitation of tonnage, an opportunity should be given to the shipping interests to express their views. For instance, if any targets were fixed for national mercantile marines and were agreed to, the committee could not proceed further on the subject. Sir Shanmukham Chetty suggested that the Government of India should not enter into any arrangements before the committee reported.

The Chairman stated that the Government of India were and would be very vigilant in regard to such matters and that if any important question arose, the committee could be informed and might be asked to give their tentative views.

Mr. Master lastly raised the question of furnishing the committee with certain statistics with regard to the cargo carried in certain trades which were referred to in the Departmental notes.

The Chairman assured Mr. Master that such information as the Department had would be placed at the disposal of the committee and that the Controller of Indian Shipping would always assist the committee as required.

The Chairman finally mentioned that Sir C. P. Ramaswami Aiyar would be requested to be the Chairman of the sub-committee and convenor of its first meeting and that the committee might choose its own secretary.

The meeting then terminated.

APPENDIX III

S. P. C. 3/46

GOVERNMENT OF INDIA,
DEPARTMENT OF COMMERCE
New Delhi, the 1st March 1946

From

Y. N. SUKTHANKAR, Esquire, C.I.E., I.C.S.,
Joint Secretary to the Government of India

To

ALL SHIPPING COMPANIES (As per list attached)

GENTLEMEN,

I am directed to say that the Policy Committee on Shipping have appointed a Sub-committee to make recommendations as to the policy to be adopted by the Government of India in respect of the future of Indian Shipping. The Government of India attach very great importance to the work entrusted to the Sub-committee and are anxious to help them by furnishing all the data required by the Committee. I am therefore to ask you to be so good as to supply urgently the following figures to the Secretary, Shipping policy Sub-committee, Department of Commerce, New Delhi :—

(1) The total number of passengers carried from the Indian Ports in all the ships under your control (including those for which you are the agents) on each of the different routes during each of the three years ending 1938-39; and

(2) Figures showing the number of vessels under your control (including those for which you are the agents) engaged on each of the different routes together with the actual weight of cargo handled in the different runs during the three pre-war years cited above.

An early compliance will be greatly appreciated.

I have the honour to be,
Gentlemen,
Your most obedient servant,
Y. N. SUKTHANKAR,
Joint Secretary to the Government of India.

LIST OF ADDRESSES OF SHIPPING COS. IN BOMBAY

1. Anchor Line, Ltd., 'Naval House', Graham Road, Ballard Estate, Bombay.
2. Anglo Iranian Oil Co. (India), Ltd., Wittet Road, Ballard Estate, Bombay.
3. British India Steam Navigation Co., Ltd., Ballard Estate, Bombay.
4. Burmah-Shell Oil Storage and Distributing Co., of India, Ltd., Currimbhoy Road Ballard Estate, Bombay.
5. Caltex (India), Ltd., 'Caltex House', Ballard Estate, Bombay.
6. Forbes Forbes Campbell & Co., Ltd., Home Street, Fort, Bombay.
7. Graham Trading Co., Ltd., 16, Bank Street, Fort, Bombay.
8. James Mackintosh & Co., Darabshah Bldg., Ballard Estate, Bombay.
9. James Finlay & Co., Ltd., Chartered Bank Bldg., Mahatma Gandhi Road, For Bombay.
10. Killick Nixon & Co., Home Street, Fort, Bombay.
11. Lionel Edwards, Ltd., Nicol Road, Ballard Estate, Bombay.
12. Mogul Line, Ltd., 16, Bank Street, Fort, Bombay.
13. Peninsular & Oriental S. N. Co., Ltd., Ballard Estate, Bombay.
14. Standard-Vacuum Oil Co., Ltd., 'Naval House', Graham Road, Ballard Estate Bombay.

15. Turner Morrison & Co., Ltd., 16, Bank Street, Fort, Bombay.
16. Volkart Bros., Graham Road, Ballard Estate, Bombay.
17. Scindia S. N. Co., Ltd., 'Scindia House', Ballard Estate, Bombay.
18. Bombay S. N. Co., Ltd., 'Scindia House', Ballard Estate, Bombay.
19. Indian Co-operative Nag. & Tdg., Co., Ltd., 'Scindia House', Ballard Estate, Bombay.
20. Ratnagar S. N. Co., Ltd., 'Scindia House', Ballard Estate, Bombay.
21. Eastern S. N. Co., Ltd., 'Scindia House', Ballard Estate, Bombay.
22. Malabar Steamships Co., Ltd., Mutual Bldg., Sir P. M. Road, Fort, Bombay.
23. New Dholera Steamships Ltd., Mutual Bldg., Sir P. M. Road, Fort, Bombay.
24. Merchant S. N. Co., Ltd., De Souza Street, Musjid Bunder, Mandvi, Bombay.
25. Kalmarsund Co., Ltd., De Souza Street, Musjid Bunder, Mandvi, Bombay.
26. Shri Ambica S. N. Co., Ltd., Prospect Chambers, 315-321 Hornby Road, Fort, Bombay.
27. Bharat S. N. Co., Ltd., Mehta House, 5th Floor, Apollo Street, Bombay.
28. Hindustan Steamship Co., Ltd., Devkaran Mansions, Princess Street, Bombay.

KARACHI

29. Mackinnon Mackenzie & Co., Ltd., McLeod Road, Karachi.
30. L. V. Govindji & Co., Bunder Road, Karachi.
31. Socony Vacuum Oil Co., McLeod Road, Karachi.

MADRAS

32. The South Indian Railway.

CALCUTTA

33. Gladstone Wyllie & Co., 4, Fairlie Place, Calcutta.
34. Hoare Miller & Co., 5, Fairlie Place, Calcutta.
35. The Bank Line Ltd., 9, Clive Street, Calcutta.
36. Clegg Cruickshank & Co. Ltd., 9, Clive Street, Calcutta.
37. Java Bengal Line, 27, Dalhousie Sq., Calcutta.
38. Anderson Wrights & Co., 7, Wellesley Place, Calcutta.
39. F. W. Heilgers & Co., Chartered Bank Bldg., Calcutta.
40. Jardine Skinner & Co., 4, Clive Row, Calcutta.
41. Chandbali Steam Service Ltd., 29, Strand Road, Calcutta.
42. R. K. Modi, 23, Canning Street, Calcutta.
43. Shaw Wallace & Co., 4/5, Bankshall St., Calcutta.
44. Angus & Co., 2 & 3, Clive Row, Calcutta.
45. River Steam Nav. Co., Ltd., 2, Fairlie Place, Calcutta.
46. India General Nav. & Rly. Co., Ltd., 4, Fairlie Place, Calcutta.
47. Lionel Edwards Ltd., Calcutta.
48. Scindia Steam Navigation Co., Ltd., Calcutta.
49. Mackinnon Mackenzie & Co., 16, Strand Road, Calcutta.
50. Volkart Bros., 8, Clive Street, Calcutta.
51. Grahams Trading Co., (India) Ltd., 6, Lyons Range, Calcutta.
52. British India Steam Navigation Co., Ltd., Calcutta.
53. Turner Morrison & Co., Ltd., Calcutta.

APPENDIX IV

World tonnage as in 1939 and 1945

Countries	1939 (excluding U. S. A. Lake tonnage)		Trade in 1938		1945 (excluding Lake tonnage). Vessels of 1600 G. R. T. and over	
	Gross Tons (000)	Percentage of World Tonnage	£ (mn.)	Percentage of World trade	Gross Tons (000)	Percentage of World Tonnage
United Kingdom.	17,891	27·3	1,330	13·8	14,601*	21·7
Br. Dominions .	2,660	4·0	1,524	15·9		
United States .	8,910	13·6	1,024	10·6	34,127	51·0
Denmark . .	1,175	1·8	142	1·5	498	0·7
France . .	2,934	4·5	450	4·7	1,028	1·5
Germany . .	4,483	6·8	882	9·2	...	...
Greece . .	1,781	2·7	45	0·5	593	0·9
Italy . .	3,425	5·2	232	2·4	...	...
Japan . .	5,630	8·6	309	3·2	...	...
Netherlands .	2,970	4·5	276	2·9	1,413	2·1
Norway . .	4,834	7·4	98	1·0	2,482	4·0
Spain . .	902	1·4	52	0·5	808	1·2
Sweden . .	1,577	2·4	201	2·1	1,037	1·5
U. S. S. R. .	1,306	2·0	105	1·1	459	0·5
Other Countries	5,129	7·8	2,937	30·6	...	...
Total .	65,607	100·0	9,607	100·0	66,473	100·0

*Out of this Canadian tonnage amounted to 1·8 million tons.

APPENDIX V

Statement giving summary of the coastal trade of India, Burma, and Ceylon

Route	Non-Indian (Tons)	Indian (Tons)	Total trade (Tons)
From Burma to India (Gen.) . .	14,62,532	7,81,942	22,44,474
From Burma to India (Min. Oil) .	7,95,152	...	7,95,152
From India to Burma (Gen., Coal, Salt)	6,63,560	1,25,805	7,89,365
Total .	29,21,244	9,07,747	38,28,991
From Burma to Ceylon (Gen.) . .	2,29,959	1,27,343	3,57,302
From Ceylon to Burma (Gen.) . .	1,279	905	2,184
Total .	2,31,238	1,28,248	3,59,486
From Ceylon to India (Gen.) . .	68,001	13,293	81,294
From India to Ceylon (Coal & Salt) .	3,72,171	69,769	4,41,940
Total .	4,40,172	83,062	5,23,234
Inter-Burma (Gen.)	5,420	7,602	13,022
Inter-Ceylon (Gen.)	631	...	631
Total .	6,051	7,602	13,653
Pure Indian Coastal Trade (Gen., Coal, Salt, Min. Oil)	14,99,845	8,93,07	23,92,921
Total Burma India Ceylon trade (Gen., Coal, Salt, Min. Oil) . . .	50,98,550	20,19,735	71,18,285

APPENDIX VI

General Cargo, Coal, Salt and Mineral oil carried from and to principal group ports of Burma, Ceylon and India by Non-Indian and Indian Companies during the year ending30th June, 1939.

(Figures in Tons)

Exported from Ports	Non-Indian Companies exported to				Indian Companies exported to				Total Trade exported to			
	Total Exports	Burma	Ceylon	India	Total Exports	Burma	Ceylon	India	Total Exports	Burma	Ceylon	India
General Cargo												
Burma	16,97,911	5,420	2,29,959	14,62,532	9,16,887	7,602	1,27,343	7,81,942	26,14,798	13,022	3,57,302	22,44,474
Calcutta	3,07,499	1,28,418	40,954	1,38,127	46,745	..	1,314	45,431	3,54,244	1,28,418	42,268	1,83,558
Chittagong	5,007	5,007	..	..	5,552	5,552	..	..	10,559	10,559	..	..
Coromandel Coast	62,118	16,909	6,312	38,897	8,710	7,810	..	900	70,828	24,719	6,312	39,797
Madras and S. Madras	54,201	31,913	2,937	19,351	734	54	5	665	54,935	31,977	2,942	20,016
Ceylon Ports	69,911	1,279	631	68,001	14,198	905	..	13,293	84,109	2,184	631	81,294
Tuticorin	1,00,423	2,547	74,636	23,240	14,380	2,480	..	11,900	1,14,803	5,027	74,636	35,140
Allep. Cochin	32,541	5,079	1,833	25,579	60,845	1,799	14	59,032	93,386	6,878	1,897	84,611
Calicut and Sub-Ports	18,965	399	602	17,964	45,017	93	22	44,902	63,982	492	624	62,866
Mangalore	3,069	..	..	3,069	63,793	..	..	63,793	66,862	..	..	66,862
Bombay	2,07,211	32,632	14,671	1,59,908	2,09,063	24,759	9,512	1,74,792	4,16,274	57,391	24,183	3,34,700
Kathiawar Ports	..	..	..	..	92,348	..	..	92,348	92,348	..	..	92,348
Karachi	2,40,695	10,710	7,688	2,22,297	2,13,332	9,074	8,299	1,95,959	4,54,027	19,784	15,987	4,18,256
Total (General Cargo)	27,99,551	2,40,313	3,80,273	21,78,965	16,91,604	60,138	1,46,509	14,84,957	44,91,155	3,00,451	5,26,782	36,63,922
Total (Coal)	13,63,733	4,16,392	2,22,488	7,24,853	2,98,773	74,030	50,603	1,74,140	16,62,506	4,90,422	2,73,091	8,98,993
Total (Salt)	1,40,114	13,554	..	1,26,560	29,358	144	..	29,214	1,69,472	13,698	..	1,55,774
Grand Total (Gen. Coal, Salt)	43,03,398	6,70,259	6,02,761	30,30,378	20,19,735	1,34,312	1,97,112	16,88,311	63,23,133	8,04,571	7,99,873	47,18,689
Total (Mineral Oil)	7,95,152	7,95,152	..	..	..	..	..	..	7,95,152	7,95,152	..	..
Grand Total (Gen. Coal, Salt and Mineral Oil)	50,98,550	14,65,411	6,02,761	30,30,378	20,19,735	1,34,312	1,97,112	16,88,311	71,18,285	15,99,723	7,99,873	47,18,689

APPENDIX VII

Statement showing coastal cargo (general cargo, coal, salt and mineral oil) lifted (in tons) by the Principal Indian and non-Indian Shipping Companies from and to ports in India, Burma and Ceylon from 1933-34 to 1938-39 (June ending).

I. Cargo lifted by Indian Companies

Year	Scindia (Cargo & Passenger Steamers)	Bombay Steam (Cargo and Passenger Steamers)	Bengal Burma St. Nav. Co. (Passenger Steamers)	Small Steam-ship Cos.	Brigs.	Total Cargo lifted by Indian Cos.
1933–34 . .	11,49,739	2,81,991	82,947	1,98,895	10,619	17,24,191
1934–35 . .	11,20,772	2,78,051	76,821	1,74,337	17,022	16,67,003
1935–36 . .	11,52,981	2,74,594	35,829	1,77,757	17,710	16,58,871
1936–37 . .	12,37,146	2,84,029	56,448	1,77,535	14,136	17,69,294
1937–38 . .	11,63,756	3,16,730	37,931	1,89,193	17,178	17,24,788
1938–39 . .	13,74,676	3,39,969	1,03,566	1,78,996	22,528	20,19,735
Total .	71,99,070	17,75,364	3,93,542	1,096,713	99,193	10,563,882
Avg. p. year .	11,99,845	2,95,894	65,590	1,82,786	16,532	17,60,647

II. Cargo lifted by Non-Indian Companies

Year	British India S. N. Co., Ltd. (Cargo, Mail & Passenger Steamers)	Asiatic S. N. Co., Ltd. (Cargo Steamers)	Other Non-Indian Cos.	Total Cargo lifted by Non-Indian Cos.
1933–34 . . .	30.24,841	7,60,731	14,50,697	52,45,269
1934–35 . . .	29,97,758	8,66,105	16,68,592	55,32,455
1935–36 . . .	27,49,902	8,45,404	15,58,814	51,54,120
1936–37 . . .	27,42,352	7,49,546	12,86,923	47,78,821
1937–38 . . .	30,15,948	6,16,481	12,69,909	49,02,698
1938–39 . . .	30,16,998	6,03,031	14,78,521	50,98,550
Total .	1,75,47,799	44,50,658	87,13,456	3,07,11,913
Avg. p. year . .	29,24,633	7,41,776	14,52,243	51,18,652

Grand Total of I & II

	1933–34	1934–35	1935–36	1936–37	1937–38	1938–39
Tons . .	69,69,460	71,99,458	68,12,991	65,48,115	66,27,486	71,18,285

Average per year of I & II = 68,79,299 tons.

Average—

Cargo lifted by Non-Indian Shipping Companies during the period of 6 years 51,18,652

Cargo lifted by Indian Shipping Companies during the period of 6 years 17,60,647

Percentage on total liftings: Non-Indian Shipping Companies . . . 74·40%
Percentage on total liftings: Indian Shipping Companies . . . 25·60%

APPENDIX VIII

Passengers carried in the Coastal Trade of India, Burma and Ceylon as well as the number of pilgrims carried between India and Jedda for the period of five years ending the 30th June, 1939.

	1934-35	1935-36	1936-37	1937-38	1938-39
A. *Passengers carried in the coastal trade of India, Burma and Ceylon :*					
I. BAY OF BENGAL—					
(*a*) Calcutta/Rangoon	1,35,642	1,61,479	1,41,050	1,38,530	1,38,398
(*b*) Madras/Rangoon.	69,757	71,212	67,563	66,275	75,249
(*c*) Coromandel/Rangoon	1,14,314	1,16,335	1,10,217	1,16,045	1,16,239
(*d*) Chittagong/Rangoon	1,31,725	1,29,557	1,38,023	1,28,763	1,25,664
(*e*) Chittagong/Cox's Bazar	59,856	70,082	67,603	70,662	73,478
	5,11,294	5,48,665	5,24,456	5,20,275	5,29,028
II. RANGOON/TAVOY/ MERGUI	15,934	18,842	20,107	20,460	20,018
III. TUTICORIN/COLOMBO	93,244	96,444	90,996	1,02,226	96,833
IV. WEST COAST OF INDIA					
(*a*) Bombay/Mangalore/Malabar.	50,586	51,970	51,220	57,658	61,235
(*b*) Bombay/Konkan (Ferry Lines)	8,57,028	8,05,363	9,90,541	10,30,170	11,60,541
(*c*) Bombay/Harbour	5,36,953	5,50,301	5,12,815	5,76,335	5,57,399
(*d*) Bombay/Kathiawar/ Karachi.	1,20,966	1,20,697	1,19,137	1,22,464	1,27,170
	15,65,533	15,28,331	16,73,713	17,86,627	19,06,345
B. *Passengers carried in the Pilgrim Trade*					
INDIA/JEDDA	13,079	10,466	12,833	19,664	19,278
GRAND TOTAL	21,99,084	22,02,748	23,22,015	24,49,252	25,71,502

APPENDIX IX

India's Coastal Trade

Statement showing the tonnage of steamships that entered and cleared with cargoes and in ballast during the fiscal year 1938-39

Nationality.	Entered		Cleared	
	Gross Regd. Tons	Percentage to Total	Gross Regd. Tons	Percentage to Total
British	11,187,993	65·6	11,272,509	65·8
British Indian	3,046,124	17·9	2,990,982	17·5
Swedish	180,508	1·1	151,495	0·9
Norwegian	331,565	1·9	338,921	2·0
German	751,234	4·4	726,083	4·2
French	5,381	...	8,507	...
Italian	594,354	3·5	536,832	3·1
U. S. A.	187,308	1·1	211,394	1·2
Japanese	455,395	2·7	555,671	3·3
Others	304,187	1·8	340,960	2·0
Total	17,044,049	100·0	17,133,354	100·0

APPENDIX X

Statement showing the tonnage of Imports and Exports at ports in India during the yea 1938-39 (Coastal and Foreign)

(In Tons)

Ports	Imports	Exports	Total
(1) Bombay	3,209,000	1,887,000	5,096,000
(2) Calcutta	2,471,691	6,725,350	9,197,041
(3) Cochin	590,547	195,582	786,129
(4) Chittagong	319,139	124,711	443,850
(5) Karachi	861,000	1,396,000	2,257,000
(6) Madras	...	...	1,149,045
(7) Vizagapatam	33,330	6,66,954	400,284
Total .	...	...	19,3[illegible]9,3[illegible]

(Source : Annual Administration Reports of the Port Trusts.)

APPENDIX XI

Summary statement showing estimates of India's total Import and Export Trade during 1938-39 and the target to be secured for Indian Shipping (Foreign Trade only).

(Figures in 000s.)

Groups	Imports		Exports		Total of Imports and Exports		Target to be secured for Indian Shipping Tons.	Target figure as per cent. of India's total trade
	Quantity in tons.	Value in Rs.	Quantity in tons.	Value in Rs.	Quantity in tons	Value in Rs.		
Total of Group I (includes Burma and Ceylon)	27,10	25,52,43	15,39	16,46,28	42,49	41,98,71	31,87	19·8%
Total of Group II (includes the whole of Africa, the Middle East—including the Persian Gulf, Thailand, Indo-China, Malaya and the Dutch East Indies.)	17,44	21,87,38	7,33	16,51,03	24,77	38,38,41	18,58	11·6%
Total of Group III (includes Japan, China, Australia, the Continent of Europe and the U. K. and North and South America.)	26,01	1,03,95,63	67,30	1,36,20,59	93,31	2,40,16,22	46,65	29·0%
Total	70,55	1,51,35,44	90,02	1,69,17,90	1,60,57	3,20,53,34	97,10	60·4%

APPENDIX XII

India's Foreign Trade

Statement showing the number and tonnage of steam vessels which entered and cleared with cargoes and in ballast at ports in British India during the fiscal year 1938-39.

Nationality	Entered			Cleared		
	No. of vessels	Gross Regd. Tons	Percentage to Total	No. of vessels	Gross Regd. Tons	Percentage to Total
British . .	2,302	7,322,821	66·6	2,308	7,334,117	67·2
British Indian .	150	391,812	3·6	144	359,002	3·3
Danish . .	11	34,303	0·3	10	31,831	0·3
Dutch . .	58	240,676	2·2	53	205,061	1·9
French . .	25	169,807	1·5	24	166,681	1·5
Belgian . .	1	3,088	0·02	1	3,088	0·02
German .	125	567,228	5·2	121	552,309	5·1
Greek . .	26	80,719	0·7	28	84,748	0·8
Italian . .	163	884,641	8·0	179	931,325	8·5
Norwegian .	96	302,345	2·7	96	307,688	2·8
Estonian . .	1	859	...	...	...	...
Swedish . .	19	64,405	0·6	30	98,645	0·9
Japanese . .	182	742,038	6·7	159	649,568	6·0
American . .	37	161,123	1·5	32	143,465	1·3
Yugoslavian .	1	3,249	0·02	3	9,310	0·08
Roumanian .	1	2,673	0·02	1	2,673	0·02
Egyptian . .	3	9,097	0·08	2	6,221	0·05
Finnish . .	2	7,054	0·06	1	3,775	0·03
Panamian .	7	22,831	0·2	9	25,965	0·2
Total .	3,210	11,010,769	100	3,201	10,915,472	100

APPENDIX XIII

Estimate of India's Import and Export Trade with Ceylon and Burma in 1938-39

(Figures in 000's.)

Country	Imports from		Exports to		Total of Imports and Exports	
	Quantity Tons	Value Rs.	Quantity Tons	Value Rs.	Quantity Tons	Value Rs.
Ceylon . .	108	1,17,52	578	5,36,07	686	6,53,59
Burma . .	2,602	24,34,91	961	11,10,21	3,563	35,45,12
Total . .	2,710	25,52,43	1,539	16,46,28	4,249	41,98,71

(*i*) Group Total as % to India's total foreign trade :— (% Quantity) 26.5%, (% Value) 13.1%

(*ii*) Target to be secured for Indian Shipping. (Quantity in tons) :—3,186,750.

(*iii*) Target figure as % of India's total trade (% Quantity) :—19.8%

APPENDIX XIV

India's Import and Export Trade with adjacent countries during the year 1938-39

(Figures in 000's)

Country	Imports from		Exports to		Total	
	Quantity Tons	Value Rs.	Quantity Tons	Value Rs.	Quantity Tons	Value Rs.
African Countries —						
Egypt . . .	131	2,18,89	60	1,27,38	191	3,46,27
Union of South Africa .	60	34,75	77	1,52,81	137	1,87,56
Kenya Colony . .	67	4,89,17	18	58,91	85	5,48,08
Mauritius & Dependancies.	0·3	38	64	87,12	64·3	87,50
Other African Countries	84·0	2,94,48	84·3	2,26,29	168·3	5,20,77
Total African Countries	342·3	10,37,67	303·3	6,52,51	645·6	16,90,18
Asiatic Countries excepting China & Japan—						
Iran	712	3,48,84	10	85,14	722	4,33,98
Straits Settlements .	200	4,13,06	73	2,16,64	273	6,29,70
Borneo . . .	180	1,07,15	2	3,77	182	1,10,92
Bahrein Islands . .	107	81,89	16	35,79	123	1,17,68
Iraq	69	46,00	18	67,15	87	1,13,15
Aden & Dependancies .	17	24,19	50	1,10,75	67	1,34,94
Arabian States . .	22	26,96	88	1,22,28	110	1,49,24
Java	39	51,08	30	74,70	69	1,25,78
French Indo-China .	21	13,93	29	68,24	50	82,17
Other Asiatic Countries	35·2	36,61	113·3	2,14,06	148·5	2,50,67
Total Asiatic Countries	1,402 2	11,49,71	429·3	9,98,52	1,831·5	21,48,23
Total Group II . .	1,744	21,87,38	733	16,51,03	2,477	38,38,41

(*i*) Group Total as % to India's total foreign trade { %Quantity—15·4% / %Value—12·0%

(*ii*) Target figure to be secured for Indian Shipping (Quantity in Tons). —1,857,750.

(*iii*) Target figure as % of India's total trade (% Quantity) :—11·6%

APPENDIX XV

India's Import and Export Trade with distant countries during the year 1938-39

(Figures in 000's)

Country	2 Imports from		3 Exports to		4 Total of Imports and Exports (Cols. 2 & 3)	
	Quantity Tons	Value Rs.	Quantity Tons	Value Rs.	Quantity Tons	Value Rs.
Europe—						
United Kingdom .	1,020	46,48,91	2,109	58,25,41	3,129	1,04,74,32
Germany . . .	283	12,92,73	533	8,70,18	816	21,62,91
Netherlands . .	44	1,42,85	365	4,43,61	409	5,86,46
Belgium . . .	245	2,91,90	272	4,47,66	517	7,39,56
France . . .	23	1,40,14	403	6,23,23	426	7,63,37
Italy	40	2,68,51	165	2,63,94	205	5,32,45
Other European Countries.	203	5,30,51	298	6,03,90	501	11,34,41
Asia—						
Japan . . .	227	15,41,34	1,224	14,82,10	1,451	30,23,44
China including Hong Kong.	31	2,08,57	600	5,41,46	631	7,50,03
America—						
Canada . . .	10	90,76	64	2,14,36	74	3,05,12
United States . .	278	9,77,83	348	14,28,52	626	24,06,35
Argentine Republic .	00	92	118	2,88,34	118	2,89,26
Other American Countries.	1	2,78	88	2,19,49	89	2,22,27
Commonwealth of Australia.	192	2,41,28	117	2,98,05	309	5,39,33
Pacific Islands . .	4	16,60	26	70,34	30	86,94
Total .	2,601	1,03,95,63	6,730	1,36,20,59	9,331	2,40,16,22

(*i*) Group total as % to India's total foreign trade { %Quantity—58·1% / %Value—74·9%

(*ii*) Target figure to be secured for Indian Shipping (Quantity in tons)—46,65,500

(*iii*) Target figure as % of India's total trade (% Quantity) —29·0%

APPENDIX XVI

Statement of cargo in D. W. Tons carried on the coast in the year 1944 (including Ceylon and Burma)

Commodities	By Ministry of War Transport	By Indian Registered tonnage	Total
1. Coal	663,570	86,814	750,384
2. Salt	40,933	84,170	125,103
3. Food grains	481,881	214,628	696,509
4. General Cargo	666,657	406,656	1,073,313
Total .	1,853,041	792,268	2,645,309

APPENDIX XVII

Steamers & Motorships of 100 tons and upward belonging to various countries in the world (according to 1939/40 Edition of the Lloyd's Register of Shipping (Volume II), vide page 5, Statistical tables)

Countries where owned	Steamers & Motorships	
	No.	G. Tonnage
British Empire—		
Great Britain & Ireland	6,722	17,891,134
Australia	361	494,171
Canada—		
Coast	618	773,105
Great Lakes	174	450,856
Hongkong	133	350,710
India, Burma & Ceylon	179	237,729
New Zealand	163	175,384
Other Dominions, Colonies, etc.	627	628,836
	8,977	21,001,925
America (United States)—		
Sea	2,345	8,909,892
Great Lakes	508	2,451,641
Phillippine Islands	105	128,644
	2,958	11,490,177
Argentine	295	290,602
Belgium	200	408,418
Brazil	293	484,870
Chile	101	171,515
China	171	257,924
Cuba	33	26,704
Denmark	705	1,174,944
Egypt	54	108,399
Esthonia	164	192,085
Finland	402	590,254
France	1,231	2,933,933

Countries where owned	Steamers & Motorships	
	No.	G. Tonnage
Germany	2,459	4,482,662
Greece	607	1,780,666
Holland	1,523	2,969,578
Honduras	32	83,945
Italy	1,227	3,424,804
Japan	2,337	5,629,844
Latvia	89	181,184
Mexico	40	30,426
Norway	1,987	4,833,813
Panama	159	717,525
Peru	28	34,072
Poland	63	121,630
Portugal	225	257,365
Rumania	35	111,678
Russia (Soviet Union)	699	1,305,959
Spain	777	902,251
Sweden	1,231	1,577,120
Turkey	185	224,461
Venezuela	47	75,261
Yugoslavia	187	410,486
Other Countries	240	179,056
Countries not stated	12	43,825
Total	29,763	68,509,432

APPENDIX XVIII

Particulars of the Tonnage owned in different parts of the world by Shipping Companies each of which owned 50,000 tons gross and more in the year 1939 (vide *Lloyd's Register of Shipping 1939-40 and Fairplay's Annual Summary of British Shipping Finance 1939*).

Country	No. of Steamers	G. R. T
United Kingdom	1,638	1,12,84,895
Australia	31	77,081
Argentina	126	95,363
Belgium	59	2,75,872
Belgian State (London)	...	...
Brazil	58	2,80,380
Canada	205	11,03,388
India	23	98,712
China	98	3,47,344
Denmark	225	6,66,270
France	229	12,76,187
Finland	57	79,546
Germany	323	18,73,487
Greece	36	3,73,931
Holland	393	19,01,753
Italy	293	18,17,773
Japan	647	26,59,584
Korea	26	53,736
New Zealand	63	4,01,406
Norway	252	10,00,785
Portugal	16	57,099
Roumania	14	61,128
Spain	95	3,85,648
Sweden	194	5,79,293
Turkey	34	82,385
U. S. A.	1,195	57,40,719
U. S. S. R.	725	9,25,128
Yugoslavia	40	1, 33, 8
Netherlands W. T.	40	1,19,561
	7,153	3,37,74,689

APPENDIX XIX

Names of the Shipping Companies in the different parts of the world each of which owned over 2,00,000 gross tons in 1939 (vide *Lloyd's Register of Shipping 1939 40.*)

Shipping Company	Tonnage G. R. T.	Flag
Companies over 7 lacs tonnage—		
1. Hamburg Amerikanische . . .	7,90,199	Germany.
2. Lloyd Triestino Societa	7,68,386	Italy.
3. Nippon Yusen Kaisha, K. . . .	7,21,388	Japan.
Companies over 6 lacs tonnage—		
1. The B. I. S. N. Co.	6,41,837	British.
2. Osaka Sosen K. Kaisha	6,18,218	Japan.
Companies over 5 lacs tonnage—		
NIL.		
Companies over 4 lacs tonnage—		
1. Compagnie Generale Transatlantique .	4,69,223	France.
2. The P. & O.	4,64,795	British.
3. Italia Societa Anonima Di Nav . .	4,56,623	Italy.
4. K. P. M. Shipping Co.	4,50,312	Holland.
5. Cunard White Star	4,51,913	British.
6. United States Maritime Co. . . .	4,25,158	American.
7. Norddeutscher Lloyd	4,18,218	Germany.
8. Hamburg Suda merik Anische . .	4,00,463	Germany.
Companies over 3 lacs tonnage—		
1. Canadian Pacific Steamships, Ltd. .	3,24,738	Canada.
2. Pittsburg Steamship Co. . . .	3,18,121	U. S. A.
3. Nederland N. V. Stoomvaart	3,15,218	Holland.
4. La Corona N. V.	3,10,280	Holland.
5. Hall Lines	3,09,658	British.
Companies over 2 lacstonnage—		
1. Lykes Bros. S. S. Co.	2,80,325	America.
2. Standard Oil Co.	2,80,188	America.
3. Matson Nav. Co.	2,78,220	America.
4. Panama Transport Co. . . .	2,75,581	Canada.
5. Yamashita K. Kaisha	2,64,485	Japan.

Shipping Company	Tonnage G. R. T.	Flag
Companies over 2 lacs tonnage—contd.		
6. Socony Vacuum	2,58,128	America.
7. American Hawaiian Steamship	2,34,729	America.
8. Laure Achille	2,32,238	Italy.
9. Port Lines	2,29,781	British.
10. Moller A. P.	2,21,491	Denmark.
11. Nederland America S. Co.	2,18,221	Holland.
12. United Fruit Co.	2,18,121	America.
13. Port Jafferson Transport Co.	2,18,121	America.
14. Union Steamship Co.	2,15,128	New Zealand.
15. Societe Des Services	2,10,128	France.
16. Shaw, Savill & Albian Co., Ltd.	2,03,298	British.
17. Wilhelmson Wilh. Line	2,01,157	Norway.
Total Number of Companies		35
Aggregate of gross tonnage owned by them		1,26,94,188

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REPORT

OF

THE AMERICAN TECHNICAL MISSION

TO

INDIA

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A SURVEY OF INDIA'S INDUSTRIAL PRODUCTION FOR WAR PURPOSES

REPORT
OF
THE AMERICAN TECHNICAL MISSION TO INDIA

Submitted to
THE GOVERNMENT OF INDIA
AND TO
THE GOVERNMENT OF THE UNITED STATES

AUGUST 1942

AMERICAN TECHNICAL MISSION TO INDIA

HENRY F. GRADY, Chairman

H. E. BEYSTER

DIRK DEKKER

A. W. HERRINGTON

FRANK A. WARING, Executive Officer

ACKNOWLEDGMENT

The members of the American Technical Mission wish to express their sincere appreciation for the cordial hospitality extended to them by the Government of India during their recent visit. They feel a pleasant sense of obligation for the many courtesies shown them by officials of that Government. They particularly wish to acknowledge their indebtedness to Mr. E. M. Jenkins, Secretary of the Department of Supply, whose co-operation and assistance were most valuable, and to Lieutenant-Colonel D. G. P. M. Shewen who, as Staff Officer of the Mission, did much to make a rigorous program less difficult and arduous.

The members of the Mission wish also to express their appreciation of the co-operation accorded them by the Government of the United States. They are especially grateful for the assistance received from officers of the Department of State, both at home and abroad, and from officials of the Board of Economic Warfare and of the Lend-Lease Administration.

For much of the factual data contained in this report, the Mission acknowledges its indebtedness to officials of the Department of Supply who prepared a comprehensive series of memoranda covering the principal phases of industrial activity in India, and to officials of the Board of Economic Warfare who, prior to the departure of the Mission, submitted a most helpful report on the economy of India.

FOREWORD

Early in 1942 the Government of India invited the Government of the United States to send a group of American experts to India. The purpose of the Mission was to advise the Government of that country on ways and means of stimulating the production in India of essential war materials and to determine how the United States might assist most effectively in this effort. The Government of the United States gladly accepted the invitation. The Department of State, in co-operation with the Board of Economic Warfare, selected the members of the American Technical Mission to India, and issued directives concerning the scope of the Mission's activities. Those appointed were Henry F. Grady, Chairman, H. E. Beyster, Dirk Dekker, A. W. Herrington, and Frank A. Waring, Executive Officer.

The Mission left the United States in April 1942 and returned in June, after making a comprehensive survey of the industrial resources of India and of the possible expansion of production essential to the prosecution of the war. The Mission is now submitting its report, together with its several recommendations. To these recommendations the Government of the United States will give the prompt attention and the thoughtful consideration which the subject so richly merits.

Sd/- HENRY A. WALLACE
Vice President of the United States, and
Chairman of the Board of Economic Warfare

Sd/ CORDELL HULL
Secretary of State

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REPORT OF THE
AMERICAN TECHNICAL MISSION TO INDIA

INTRODUCTION

The Government of India extended an invitation to the Government of the United States to send to India a group of experts to investigate the industrial resources of that country and to recommend ways and means by which the Government of the United States could assist in augmenting India's war production. The Government of the United States accepted the invitation, and the Secretary of State appointed, as members of the American Technical Mission to India, Dr. Henry F Grady (Chairman), Mr. Harry E. Beyster, Mr. Dirk Dekker, and Mr. Arthur W. Herrington. Dr. Frank A. Waring was named Executive Officer of the Mission. Because of its terms of reference, the work of the Mission was directly related to the common war effort of the United Nations and was in no way connected with the post-war industrial and commercial problems of India.

The Mission left New York on April 3, 1942, and arrived in New Delhi on April 17. It remained in India 5 weeks, leaving Karachi on May 22 and arriving in Washington on June 2. During its stay in India the Mission conferred with officials of interested Departments of the Government of India and of some of the Provinces and States, and with industrial leaders, businessmen, and chambers of commerce in New Delhi, Calcutta, and Bombay. It visited Government munition factories, railway workshops, shipbuilding and ship-repair shops, and the principal industrial plants engaged in the production of war materials in the Calcuttta area. It spent 2 days in inspecting the plants of the Tata Iron and Steal Company and its allied concerns producing steel castings, tin plate, and wire and cable at or near Jamshedpur. It visited the principal industrial plants of Bombay, including those for automobile assembly and the manufacture of tires, and it spent a day in inspecting the port area of that city. The Mission also visited the port area at Karachi and conferred with officials concerning conditions there and at the port of Cochin.

The Mission at all times received the most cordial co-operation from officials of the Government of India, especially those in the Supply Department with whom the members were in daily contact Mr. Jenkins, Secretary of the Supply Department, was particularly helpful. The members of the Mission were given every opportunity to confer with all types of industrialists, regardless of their political beliefs and affiliations, and to visit any and all industrial plants in which they evidenced an interest.

The members believe that the Mission, by its advice, has been able to suggest much that will be helpful to the Government and industrialists of India and that additional assistance will flow from the fulfillment of its recommendations concerning the supply of materials and personnel to further India's effort to increase its production of munitions and other essential goods. Some of the Mission's recommendations were designed to expedite the orders for equipment placed prior to the Mission's arrival in India. Other orders were placed by the Government of India and endorsed by the Mission after conferences with officials of the Government. In all instances the Mission's endorsement was given only after a careful investigation of the facts pertinent to each case.

The American Technical Mission to India is submitting herewith its report to the Government of India and to the Government of the United States. Before its departure from India the Mission presented to the Government of that country a preliminary report in which it set forth some of its basic recommendations. And, immediately upon its return to the United States, the Mission presented a preliminary report to its own Government. In this final report, the Mission submits in full its recommendations, together with the pertinent factual data that impelled their formulation.

This report is offered in a spirit of constructive suggestion. The Mission is in no sense critical of the efforts which have thus far been made by the Government and the industrialists of India in the development of war production. Much has already been done despite grave handicaps in equipment, materials, and personnel. But today an even greater effort is required. With the enemy at their very gates, the Mission is confident that the Government and people of India willl respond to the challenge as did the Government and people of Great Britain after Dunkirk and the Government and people of the United States after Pearl Harbor.

THE STRATEGIC IMPORTANCE OF INDIA

The Mission believes that India is of great strategic importance to the cause of the United Nations. In its opinion this is because India can be utilised as a base for an offensive against the Japanese in Burma, because India and Burma are essential links in the efforts of the United Nations to supply China with war materials, and, finally, because India possesses great natural resoures which must not only be kept from the enemy, but must also be fully developed for the benefit of the United Nations. The importance of rapidly developing India's potentialities for war production has been greatly accentuated by recent military developments in south-eastern Asia. At present there appear to be three principal war fronts of the United Nations in their struggle against the aggressors. These are the Soviet Union front, the India-Burma-China front, and the Australian front. The military strength of the front with which India is associated will be largely determined by the extent to which that country, limited only by capacity and practicability, can become an important arsenal producing munitions essential to the prosecution of the war. There is, therefore, not only the problem of producing military equipment to protect India from invasion, but also that of supplying quickly and effectively certain war equipment essential to aggressive action in Burma and China. Current difficulties of transportation may be lessened by an improvement of the military situation, but the time factor will continue to be important. The production of military supplies close to a military front is obviously vital.

It is the opinion of the Mission that a much larger army than now exists can be recruited in India. The capacity of that country to mobilize such an army is a vital consideration in any plan to expand its production of war materials. Indeed, if India can aid the United Nations by supplying equipment and by creating an even more formidable army of its own, it will be of material assistance in bringing about an early and successful termination of the war.

ORGANIZATION OF GOVERNMENT AND INDUSTRY.

At the time of the Mission's visit, the Government of India and the industries of India, with few exceptions, were not organized on a war basis. There was no single governmental official or group of officials with the responsibility of directing and co-ordinating the entire industrial war effort. Competitive bidding was still required in obtaining supplies of many articles. The Mission found horseshoes, steel tips for army boots, and railroad switch gear being produced in a ship-repair plant at Bombay, while more than 100 ships waited

in the harbor for major and minor repairs. A large number of the industrial plants in India were, in fact, mere jobbing shops producing a variety of articles with a resulting loss in efficiency of production; yet there was no central authority to bring about the transfer of machinery and the concentration in production that would be certain to result in increased output. The railroads, despite increasingly serious congestion were accepting goods for shipment with little regard for their importance or ultimate use. There was a shortage in electric power, but no serious attempt was being made to curtail consumption for non-essential purposes. An adequate system of priorities had not been developed and, in consequence, essential construction was frequently delayed by the lack of requisite materials. Prices were increasing, but no machinery had been established for their control.

The industrialists in India were, with few exceptions, still concerned primarily with profits and apparently did not realize the threat which the war had created not only to profits, but to capital as well. Valuable time was lost in debating whether Government or industry should pay for plant extensions and, if government was to pay, the terms on which the property might be acquired when the war was ended. Numerous industrialists were demanding substantial war risk insurance and a guarantee of profits. Protracted negotiations were necessary before some industries would accept government contracts that were less remunerative than production for civilian demand. A number of Indian industrialists were not in sympathy with the Government of India and stubbornly resisted its efforts to take over plants for war production or to requisition and remove machinery urgently required elsewhere. They appeared to be more concerned with possible conditions in the post-war period than with the assistance they might be able to render in the present emergency.

In its preliminary report to the Government of India, the Mission made the following observations concerning the organization of the Government of India and of the industries of India for the increased production of materials essential to the war:

> "Political and industrial economy in times of war is very different from that in times of peace. In a democracy there must be a considerable element of *laissez faire* and the profit incentive in the production and distribution of goods is generally recognised. Initiative and enterprise do not thrive under regimentation and yet, under the emergency of war, there must be unification, co-ordination, the restriction of initiative, the subordination of the profit incentive, and the complete concentration of the nation through its government on the defeat of the enemy. Democracies are characteristically slow in converting their national organization from a peacetime to a wartime basis. Totalitarian countries which are always mobilized for national objectives have little difficulty in quickly striking with the full force of their national resources. Some leaders in our country were talking as late as a year ago of 'business as usual' and of the ability of the country to do the war job and to continue its normal peacetime activities. Finally, however, we learned that this could not be done, and public opinion in government business, agriculture, and labor is now united on the single objective of defending the country and its allies against the aggressors. To accomplish this task it has been necessary greatly to change our government organization. Mr. Donald Nelson has had delegated to him by the President many of the President's broad war powers. He is in effect the czar of war production. It took the United States many months to evolve the War Production Board and its organization under Mr. Nelson.

Development along similar lines was necessary in Great Britain, Canada, Australia, and in others of the United Nations.

"The Government of India has made definite progress during the last year in stimulating India's war effort. Indeed, some believe that it has attained its maximum production under a voluntary system actuated by the profit motive, but there is still much to be done before the complete mobilization of India's resources shall have been attained. The United States, Great Britain, and other democratic countries have had a two fold problem, first, that of augmenting the production of certain peace-time commodities needed for war, and secondly, of converting peacetime industries to war production. India has had that same problem. These two phases of reorganizing and co-ordinating long-established institutions can hardly be done without strong centralized power vested in government and exercised by it.

"In India most of the shops now producing war goods are engineering concerns which historically have been jobbing shops. They have produced a large variety of articles based on the orders received. As the Government of India has issued orders for the production of munitions and other war goods, these shops, including the railroad shops, have taken the orders on a 'jobbing' basis. To maximize production it will be necessary to have a basic change in production technique. It will be necessary to concentrate machinery and plant on one or two rather than many articles. A few plants in India have developed the mass production technique to a high degree of efficiency, notably the Tata plant producing iron and steel, but many more must be induced or compelled to do so.

"To convert a large number of miscellaneous engineering shops to something approximating the system of 'assembly-line' production common to advanced industrial countries is a difficult undertaking, but it is essential that this be done if India's maximum potentialities for war production are to be realized. It will be necessary not only to obtain new equipment but also to move equipment from one shop to another and thus develop a program of concentrated, rather than scattered effort. In many instances such a reorganization should also include the rearrangement of machinery within existing plants to achieve maximum efficiency.

"With the more general establishment of plants engaged in war production, the armed forces and the Government of India will have, on a wider scale than heretofore, the problem and reponsibility of planning orders sufficiently far in advance to secure and maintain efficiency of operations. It is the opinion of the Mission that beneficial results could be obtained by the immediate and general application of such a policy. In addition, a more rigid control of raw materials and the priority allocation of them will have to be instituted. Price fixing will be required so as to remove unreasonable profits from war production and avoid the disaster of inflation. It is not the intention of the Mission, however, to recommend any particular form of governmental organization to accomplish these purposes. The Mission wishes merely to state the problem and let the Government and leaders of India determine how it can best be solved.

"The organization of war production in the United States is practically independent of established government agencies. This arrangement has much to commend it, and many who have talked with the

Mission have stated that something comparable to our system, or to that of Great Britain which is similar should be adopted in India. Others have suggested that the Supply Department, which under present conditions has been primarily responsible for war production, should have divorced from it the problems of production and that a new Department of Production under the direction of a member of the Council should be formed. It was urged that, if established, such a department might be strengthened by bringing into it, as heads of departments, executives from industry and that to this organization might be added production advisers from the United States Still another suggestion is that the Department of supply might be converted into a Department of Production and Supply with two clearly defined divisions, the functions of which would be segregated in accordance with the new title. A fourth suggestion, which appeals to the Mission as being sound and feasible, provides for the establishment of a war cabinet of three or five members of the Council with an appropriate Secretariat, which would have complete control of war production in all its phases. With membership based on responsibility for production, transportation and communication, finance, and defense, such a cabinet might direct the war effort more effectively than could be done under any of the suggestions outlined above."

The members of the Mission have been gratified to learn that the Government of India have accepted its suggestion regarding governmental organization for war production and has established the War Resources Committee of Council which, the Mission understands, is charged with the duty of co-ordinating and directing India's industrial war effort. His Excellency The Viceroy is president of the Committee which consists of the Defence Member, the Supply Member (Vice President), the Commerce Member, the Finance Member, and the Communications Member. The Mission believes that this action, together with the appointment of a permanent Secretary, represents a substantial advance in India's program for the intensification of its industrial production.

The expansion of industrial production in India is to be based at least in part on Lend-Lease material from the United States, and upon the advice of technicians from this country whose services have been requested by the Government of India and whose appointment has been recommended by the Mission. Because of the interest of the United States in the industrial development of India, the Mission believes that the Government of the United States should appoint an Economic Adviser as a member of the staff of the American Mission in New Delhi. The duties of such an appointee would be to direct and co-ordinate, from the standpoint of this country, its various economic activities in India. In addition to representing the Department of State in economic matters, he would act for the Board of Economic Warfare and the Lend-Lease Administration, and would maintain close contact with representatives in India of the United states Army, the Reconstruction Finance Corporation, and the United States Maritime Commission so that he might be apprised of, and might co-operate with, their economic activities. In order that this special representative might work most effectively with appropriate officials of the Government of India, the Mission wishes to suggest that he be fully informed of the activities of the War Resources Committee of Council, and of the various Departments concerned. In this way the Mission believes that the efforts of the two Governments might be most fully and effectively co-ordinated.

Recommendations*

1. The Mission recommends that the necessary authority and responsibility for the industrial program affecting the production of war materials be centralized in an appropriate individual or group within the Government of India.

2. The Mission recommends that the Government of India make every effort to mobilize the industrial resources of that country in order that maximum production of essential war materials can be obtained. To assist in achieving this objective, it suggests that :

   (a) Wherever appropriate and possible, existing engineering shops that are in reality jobbing shops should be converted into mass production factories ;

   (b) The Government of India and the military command should make every effort to plan as far as possible in advance its orders of supplies, and the military command should be requested to re-examine its present supply program in the light of current military developments ;

   (c) The Government of India should exercise more rigid control over raw materials and should adopt a system of priority allocation for their distribution; and

   (d) To prevent the possible disaster of inflation, the Government of India should take steps to introduce adequate measures of price control.

3. The Mission recommends to the Government of the United States that it appoint an Economic Adviser on the staff of the American Mission in New Delhi who would supervise the economic activities of the United States in India and assist in co-ordinating the programs of the two Governments. It suggests to the Government of India that this special representative be kept fully informed of the activities of the War Resources Committee of Council and of the various Departments concerned.

EASTERN GROUP SUPPLY COUNCIL.

The Eastern Group Supply Council was established in the fall of 1940 to co-ordinate war production and supply in Great Britain, India, Australia, New Zealand, and South Africa. It has accomplished notable results. With current developments in the military situation, however, only India and South Africa have remained able to make active contributions to the Council, and South Africa has not been a large producer of war materials. The clearance through the Council of purchases from the Government of India on behalf of overseas commands, therefore, would seem no longer to serve a useful purpose. Accordingly, the Mission ventures to suggest that orders from overseas placed on India should be handled directly by the Supply Department of the Government of India without prior clearance through the Eastern Group Supply Council. This is not to be interpreted as a recommendation for the discontinuance of the Council It can continue to serve a useful purpose by assembling and co-ordinating information on production and supply in the various countries making up the Group and by disseminating such information to the proper authorities in those countries.

* In order to facilitate the study of the Mission's report, the pertinent recommendations are set forth at the end of each section.

Recommendations.

1. The Mission recommends that orders from overseas placed on India should be handled directly by the Supply Department of India without prior clearance through the Eastern Group Supply council.
2. It further recommends that the Council be continued as an agency for assembling and co-ordinating information on production and supply for dissemination to the proper authorities in those countries having representation in the Council.

TRANSPORTATION AND COMMUNICATION.

The railway, port, and communication facilities in India have been adversely affected by military developments in recent months. Attacks by the Japanese on shipping in the Bay of Bengal have temporarily immobilized the ports on the east coast of India. This has imposed a greatly increased burden not only on ports of the west coast, notably Bombay, Karachi, and Cochin, but also on inland transportation facilities, especially the railways.

Railways are by far the most important means of transportation in India. Indeed, it is estimated that they carry more than 98 per cent. of all land-borne traffic. Current estimates of the ton-miles borne by railways and roads are as follows:

	Ton-miles (In millions)
Railways	28,000
Roads	450

Government ownership of, and interest in, the railways has doubtless operated to retard the development of other types of transportation. Traffic on the rivers of India might be increased somewhat, but the principal rivers, with few exceptions, are not so located as to relieve the railways of much of their present burden. A substantial program of road construction would, when completed, assist in solving the present problem of transportation in India and should certainly be undertaken promptly. Such a program, however, would not provide immediate relief because of the time required to implement it. Moreover, increased use of roads would stimulate the consumption of rubber and gasoline, of which there is already a shortage. A pipe line across at least a part of India has been suggested to relieve the railways of the recently imposed burden of transporting petroleum from west-coast ports to the Calcutta area. Inasmuch as the total capacity of tank cars in India is inadequate to cope with this single problem, it would appear that the proposal should receive serious consideration, despite the time that would be consumed in its execution. But, even with the development of these various alternate means of transportation, the railways will remain the chief instrument for the movement of goods across India. Their maintenance and improvement, therefore, are matters of special concern.

Railways.

There are 48 railway systems in India. Of these, 13 are class I roads, each having earnings in excess of $1,500,000 a year; together they control most of the equipment and trackage in the country. At the outbreak of the war the Government of India owned about 75 per cent. and managed about 40 per cent. of the total route mileage of the Indian railways. At present the entire railway system is operated under Government control, which is exercised by a Railway Board in the Department of Communications.

On March 31, 1941, the total route mileage of the Indian railway system was 41,156, more than nine-tenths of which consisted of single lines. The

track mileage of Indian railways was about 56,000, of which 11,000 were sidings. Broad-gage lines (5ft. 6 in.) accounted for 21,154 miles, meter-gage lines (3 ft. 3-3/8 inch) for 15,899 miles, and narrow-gage (2 ft. 6 in and 2 ft. 0 in.) for 4,103 miles. Broad-gage lines connect all of the important ports of India, except Chittagong, with most, if not all, of the principal industrial centers. Meter-gage lines, which were first introduced many years ago principally for the sake of economy, constitute an important supplementary system and operate chiefly in north-eastern India, in Rajputana, and in the extreme south. The narrow-gage lines operate largely as feeders to the broad-gage systems.

The tractive power of the average locomotive in India is slightly more than one-half of that in the United States. The capacity of the class I broad and meter-gage freight cars, which constitute most of the total stock, was 3,619,094 tons, and the capacity of each car is about 22 tons. On March 31, 1941, the latest date for which detailed statistics are available, the motive power and the rolling stock of the railways in India consisted of the following numbers and types of vehicles :

	Broad-gage	*Meter-gage*	*Narrow-gage*
Locomotive[1]	5,290	2,638	558
Passenger cars	13,815	9,841	2,065
Freight cars[2]	152,402	59,600	7,232

Since March 31, 1941, the railways of India have lost appreciable numbers of freight cars and locomotives that were sent to assist in the campaign in the Middle East. These include 230 meter-gage locomotives, 6 narrow-gage locomotives, more than 9,000 meter-gage cars of various types, 50 narrow-gage cars, and 2,100 broad-gage cars which were, or are, being converted to standard-gage prior to shipping.

Despite the loss in motive power and rolling stock, the railways of India, in the fiscal year 1941-42, handled an appreciably larger volume of traffic than in the immediately preceding years. In the fiscal year 1940-41 the railways carried 575,723,000 passengers, an increase over the previous year of 8·7 per cent; the passenger miles amounted to 19,933 million which was 7·6 per cent, greater than in the previous year. Statistics of the net ton-miles moved over the railways in the last four fiscal years, beginning with 1938-39, are shown in table 1.

Table 1.—Indian railways : Net ton-miles moved, 1938-39 to 1941-42

Year ending March 31	Broad-gage	Percent of increase over 1938-39	Meter-gage	Percent of increase over 1938-39
	1,000 net ton-miles		*1,000 net ton-miles*	
1938-39—	18,283,959	—	3,023,616	—
1939-40—	19,352,820	+5·85	3,226,810	+6.72
1940-41	21,041,216	+15.08	3,367,697	+11.38
1941-42*—	23,321,033	+27.55	3,650,325	+20.73

*Estimated on the basis of operations for 9 months.

Source: Government of India, Department of Communications, Railway Board.

[1] On March 31, 1939, broad-gage locomotives numbered 5,300, and narrow-gage, 2,602.

[2] On March 31, 1939, broad-gage freight cars number d 149,131, and meter-gage, 59,090.

It is obvious that such an increase in traffic could be handled only by an improved utilization of the locomotives and rolling stock of the Indian railways. This improvement is reflected in the statistices given in table 2.

Table 2.—Indian railways: Net ton-miles moved per locomotive day and per wagon day, 1938-39 to 1940-41.

Year ending March 31	Broad-gage	Meter-gage
	Net ton-miles per locomotive day on line	
1938-39—	15,144	7,019
1939-40—	15,776	7,467
1940-41—	17,154	7,637
	Net ton-miles per wagon day	
1938-39—	351	147
1939-40—	367	158
1940-41—	392	163
	Engine-miles per day per engine on line	
1938-39—	79	76
1939-40—	81	78
1940-41—	83	77
	Wagon-miles per wagon day	
1938-39—	40.2	30.9
1939-40—	41.3	32-9
1940-41—	42.9	33-1

Source: Railway Board, Department of Communications Government of India.

Despite the advance thus far made in the utilization of motive power and rolling stock, the Mission is of the opinion that further improvement can be effected, and indeed must be, if the railways of India are to perform the task of transportation essential to the prosecution of the war. The railways are now seriously overburdened, and evidences of an actual break-down are becoming increasingly apparent. Finished goods at steel mills and other plants are accumulating for want of transportation, and inventories of essential raw materials are declining below the danger point because incoming shipments are not keeping pace with requirements. This conditions is due to a number of factors, among the most important of which are the following:

1. *The closing of the east-coast ports by enemy action in the Bay of Bengal.* — Of the seven principal ports of India, four (Madras, Vizagapatam, Calcutta, and Chittagong) are located on the east coast. These four ports, which in 1941 handled approximately 11,000,000 tons, or about one-half of the total ocean-borne traffic of India, were at the time of the Mission's visit almost totally inactive because of the presence of the Japanese in the Bay of Bengal. All essential exports from these ports, formerly carried directly by sea, had to be transported across India by rail before they could be loaded on ocean-going vessels. This placed a tremendous additional burden on the railroads, particularly in the Calcutta area, which alone customarily accounted for about 9,000,000 tons of ocean-borne traffic. Among the principal products now requiring rail transportation are coal, jute and jute products, pig iron, manganese, and tea. These commodities, together with

a few other strategic ones such as linseed, mica, and shellac, aggregate nearly 4,000,000 tons annually; their movement from Calcutta to Bombay would necessitate the daily allocation of about 700 railway cars Imported products also present a serious problem. Approximately 1,650 tank cars are required to provide the quantity of petroleum products necessary for the Calcutta district, and the stock of tank cars in all India is only 1,500. In addition, there is the problem of providing railway transportation for the various foodstuffs formerly imported into Calcutta Inasmuch as the Calcutta district accounts for about two-thirds of the industrial activity of India, the maintenance of a flow of essential traffic to and from that area assumes a special importance.

2 *The increased traffic arising out of the greater industrial production caused by the war.*—As in most countries involved in the war, industrial activity in India has been stimulated and general employment and purchasing power have been increased. This has been reflected in a greater movement of passengers and traffic over the railroads. Moreover, the enlarged demand upon the railroads has operated to prevent the accumulation at plant sites of inventories of essential raw materials, such as coal and iron ore, during seasons of off-peak traffic.

3. *The greatly increased movement of troops and military supplies.*

4. *The loss of rolling stock and locomotives sent to assist in the campaign in the Middle East.*

Ordinarily 1,500 freight cars are built each year in the railway workshops of India, but the railways are now 1 year in arrears on this program, in part because of their inability to obtain essential equipment from the United Kingdom. The Tata Iron and Steel Company, however, has recently installed a wheel and axle plant which should relieve a part of this difficulty.

Broad-gage locomotives are not built in India, the essential facilities for such construction not being available there. Orders placed in the United Kingdom have been long delayed; at present, delivery is awaited on 66 locomotives and the number would have been much greater had not additional orders been prohibited. Broad-gage locomotives are urgently required. When the war began (1939), 574 engines were awaiting renewal, based on a life of 35 years, by 1945, 1,495 broad-gage locomotives, or 29 per cent. of the total stock as of March 31, 1941, will be in need of replacement after allowing for the 66 on order.

The construction in India of 10 to 15 meter-gage locomotives per annum has been carried on for some time. This program, however, is inadequate to meet requirements. At the outbreak of the war 366 meter-gage locomotives were due for replacement after 35 years of service, and by 1945 this number will have increased to 829, or 35 per cent. of the total stock as of March 31, 1941.

Despite the loss of four railroad workshops to the Government for the production of munitions, officials of the Government of India state that the repair of rolling stock and locomotives has been adequately maintained. The unusual demand for equipment, however, has kept the rolling stock and locomotives in use when they would ordinarily be returned to the shops for repair. Efforts have been made to reduce to a minimum the number of locomotives and cars under repair. The goal for locomotives, for example, is no more than 12 per cent. of the total. The average time required for the periodic overhaul of locomotives in the main workshops was, in March 1942, 37 days for broad-gage locomotives and 35 days for meter-gage; the corresponding pre-war figures were 40 days and 32 days,

respectively. The average time required for the overhaul of freight cars in March 1942 was 6·7 days for broad-gage cars and 8·9 days for meter-gage cars; the corresponding figures for the months immediately preceding the outbreak of war were 7·4 and 8·9 days, respectively[1]. A statement of the rolling stock on Indian railways out of service for repair is given in table 3.

Table 3.—Rolling stock of Indian railways out of service for repair, pre-war and current.

Period	Broad-gage		Meter-gage	
	Number	Percent of total	Number	Percent of total
		Locomotives		
Sept.-Nov. 1938—	979	18·5	302	13·0
Sept.-Nov. 1941—	833	15·7	310	13·0
Dec. 1938, Jan.-Feb. 1939—	965	18·0	277	12·0
Dec. 1941, Jan.-Feb. 1942—	850	16·0	264	11·1
March-May 1939—	969	18·3	293	12·6
March-May 1941—	898	17·0	293	12·4
June-Aug. 1939—	994	18·8	324	14·0
June-Aug. 1941—	903	17·1	322	13·6
		Freight cars		
Sept.-Nov. 1938—	8,297	5·4	1,596	2·9
Sept.-Nov. 1941—	6,831	4·3	1,786	3·2
Dec 1938, Jan.-Feb. 1939—	7,128	4·6	1,663	3·0
Dec. 1941, Jan.-Feb. 1942—	5,840	3·7	1,629	2·9
March-May 1939—	8,249	5·3	2,038	3·7
March-May 1941—	6,612	3·5	1,955	3·5
June-Aug. 1939—	8,638	5·6	2,115	3·8
June-Aug. 1941—	6,994	4.5	1,951	3·5

Source: Government of India, Department of Communications, Railway Board.

Ports

Prior to the outbreak of the war India ranked about tenth among the trading nations of the world. Its position was probably higher in 1941-42. The total foreign commerce in India has aggregated approximately 22,000,000 tons, which were divided about equally between imports and exports. Although India has an extensive coast line with many ports, only a few are considered suitable for use throughout the year. Seven ports account for more

[1] In all cases the average number of days in shops includes Sundays and holidays.

than 75 percent of India's total foreign trade. These ports are Karachi, Bombay, Cochin, Madras, Vizagapatam, Calcutta, and Chittagong, of which only the west-coast ports (Karachi, Bombay, and Cochin) have natural harbors.

The closing of the east-coast ports by enemy action in the Bay of Bengal has thrown a tremendous burden on the west-coast ports which must now handle all of the ocean-borne traffic entering and leaving India, whereas prior to 1942 they had accounted for less than one-half of the total. The congestion of shipping at Karachi, Bombay, and Cochin has become acute, and there is confusion in moving cargoes to and from the docks. The congestion at Karachi and Cochin, though pronounced, is less serious than at Bombay, now the principal port of India. On May 20, 1942, there were more than 200 ships waiting in the harbor of Bombay to discharge cargo or to obtain needed repairs, and the average turn-around of ships was reported to approximate 6 weeks. In view of the current shortage of shipping and its importance to the United Nations, the Mission deems it vital that harbor facilities in the west-coast ports of India for unloading and repair be improved as rapidly as possible.

Port facilities at Karachi and Cochin are inadequate to handle the sharp increase in the traffic which occurred in the first 6 months of 1942. Port officials discussed with the Mission the additional equipment urgently required to permit them to cope with the increased tonnages, and the Mission agreed to support orders for such equipment when they had been cleared through the Supply Department, and placed on the Lend-Lease Administration by the Indian Purchasing Mission.

The port of Bombay is administered by the Bombay Port Trust, a separate public body created by and operated under the control of the Communications Department of the Government of India. The Port Trust operates as a commercial organization as well as a public service body in managing the various facilities of the port. These include three wet docks with 4.42 miles of quays and a total water area of 104·52 acres. In addition, the Trust controls deep-water tidal berths at three places, two drydocks, 121.8 miles of railway, and 8.12 miles of wharves and bunders used by coastal sailing vessels. The total port area comprises 1,880 acres. The facilities of the port were used in the fiscal year 1941 to handle a monthly average of 419,420 tons of cargo in the entire port area. Of this amount, 245,000 tons, or slightly more than one-half, were loaded or discharged at the docks. The remainder represented cargoes taken from or to ships anchored in the outer harbor or tied at the bunders. The three wet docks together have berths for approximately 45 vessels. The Alexandra Dock, the newest and largest of the three, can berth 17 vessels drawing 32 feet and not exceeding in length 475 feet. The Victoria Dock can handle 14 ships with a draft of 24 feet and not exceeding 430 feet in length. Prince's Dock, the oldest of the three, has seven cargo berths and seven repair berths; it can handle ships which draw 20 feet and which do not exceed 400 feet in length. There are deep-water tidal berths at Ballard pier and along the Alexandra Dock harbor wall. The berth at the Ballard pier is 800 feet long and 30 feet deep, and that at the Alexandra Dock harbor wall, 1,692 feet long and 25 feet deep There is also a berth at Pir Pau which is 570 feet long and 29 feet deep, and which is used principally for tankers.

In addition to its docking facilities, the Bombay port Trust operates two drydocks, one of which is 1,000 feet long, 100 feet wide, with a 22 foot sill, and a normal depth of water over the sill of 33 feet; the other is 525 feet long, 65½ feet wide, and has 22 feet of water over the 14 foot sill. There are also two private docks in Bombay, one 495 feet long and 66 feet wide, and the other

400 feet long and 66½ feet wide. The Royal Indian Navy operates three drydocks, the maximum lengths of which are 640 feet, 380 feet, and 256 feet, respectively. There are three private companies engaged in shipbuilding and ship repairing in Bombay. At the time of the Mission's visit (May 1942), no ship-repair work was being done by the workshops of the port Trust.

The equipment for the loading, unloading, and repair of ships at Bombay, while adequate under ordinary circumstances, has proved totally inadequate to cope with the recent tremendous increase in traffic. Prompt and drastic steps must be taken if the materials essential to the United Nations are to be moved in and out of India. The Mission, therefore, has made a number of recommendations designed to facilitate the handling of cargo and the repair of ships at Bombay.

Roads, airways, and waterways.

Roads.— On March 31, 1939 there were 319,000 miles of roads in India. Of these 99.000 miles were classified as unsuitable for motor vehicles, 122.000 miles as fair-weather roads, and 98,000 miles as all-weather roads. Of the last-named group, 66,000 miles were water-bound macadam and 32,000 miles were asphalt. Most of the macadam roads are in the provinces of Madras, Bombay, and the United Provinces The asphalt roads are chiefly in the Indian States of Mysore, Hyderabad, and Travancore. Bengal, Bihar, the Punjab, and the United Provinces have the greatest mileage of fair-weather roads.

The four principal highways in India are the trunk roads which extend from Calcutta to the Khyber, from Calcutta to Madras. from Madras to Bombay, and from Bombay to Delhi. These through-roads parallel the railways as do other main roads in the country. They are far less important, however, than the railways in the movement of commodities and people. In general, it may be said that India's roads are inadequate for the peacetime requirements of the country; they are altogether inadequate for wartime requirements.

The total number of motor vehicles registered in India on January 1941 was 123,400, of which 77,000 were passenger cars 26,200 were busses, 18 800 were trucks, and 1,400 were diesel units. Additional motor vehicles are, of course, being operated by the armed forces in India, but no data are available concerning their number. The Army, however, has requisitioned 3,700 new vehicles imported for civilian use and 1,800 used vehicles in the 2 years ending June 1942. In addition, a number of trucks have been hired by the Army for the training of drivers, and many more are being used in the construction of roads, airports, army camps, and supply depots. To maintain the present capacity of busses and trucks, already insufficient, at least 10,000 vehicles would have to be imported. The importation of replacement parts is also essential to the maintenance of this traffic. It is possible, of course, that commercial transportation by motor vehicles will be further curtailed by shortage of gasoline and tires

Airways.— Air transportation has not been greatly developed in India. Only two companies operate regular service between important centers of population. Tata Sons, Limited., the more important of the two companies, maintains services over the three following routes:

(1) Karachi, Bhuj, Ahmedabad, Bombay, Hyderabad, Madras, Trichinopoly, and Colombo; (2) Bombay, Indore, Bhopal, Gwalior, and Delhi; and (3) Bombay, Goa, Cannanore, Trivandrum, and Trichinopoly The total mileage of these routes is 3,791. The other company, the Indian National Airways, operates between Karachi and Calcutta via Jacobabad, Multan, Lahore, Delhi, Cawnpore, and Allahabad. The service maintained by these two companies

are almost exclusively for passengers and mail; very little freight is transported by air. Although there are a large number of airports in India, many of them are small, with inadequate runways. In fact, few airports in India have runways sufficiently long and reinforced to permit their use by United States "flying fortresses" and other heavy aircraft.

Waterways.— Inland waterways are of importance in the provinces of Bengal, Bihar, Assam, and in parts of Madras. Although no data are immediately available concerning the volume of traffic, steamers and small river boats operate on the river systems of these areas, carrying sugar, grains, and molasses from the Ganges Basin, tea and jute from East Bengal, and tea from Brahmaputra and Surma valleys in Assam to urban centers. With the exception of a few companies operating steamers on rivers in the provinces of Bengal and Assam, transportation on inland waterways is unorganized, and individual boat owners predominate.

Communications.— The postal and telegraph services of India are controlled by the Director-General of Posts and Telegraphs whose office is attached to the Department of Communications. The telegraph facilities of India have been extended considerably in recent years and facilities are now available in all of the larger cities. On March 3, 1938, there were 101,068 miles of line, including cable, and 618,605 miles of wire in India; 257 departmental telegraph offices and 4,053 other telegraph offices were operated by the post office. On the same date there were 463 telephone exchanges in India and about 80,000 telephones. Since 1927 India has been connected by wire-less with the United Kingdom and that service has since been expanded to meet the wirelses requirements of aircraft and shipping. In 1933 radio-telephone service between India and the United Kingdom was inaugurated, and this service which was at first restricted to Bombay has now been expanded to include all of the important cities in India. Despite the extension of these various services the Mission found that war demands had placed a severe burden upon them. As a result, it is frequently impossible to transmit messages quickly by either phone or telegraph. Indeed, it was not unusual for mailed confirmations of telegraphic orders to arrive before the orders themselves.

Recommendations.

1. Because of the seriousness of the problem of rail transportation in India, the Mission believes that efforts should be made to secure additional broad-gage locomotives and to increase the production in India of meter-gage locomotives and of freight cars and other essential rolling stock.
2. The Mission has urged the most efficient possible use of available equipment, including a quicker "turn-around" for cars and the possible utilization of third-class passenger cars for freight.
3. It suggests that serious consideration should be given to the installation of a pipe line from Bombay to Calcutta or to some central point, such as Allahabad, for the transportation of petroleum products, and that provision should be made for the manufacture of the pipe in India.
4. It approved a 50 percent curtailment in passenger traffic and suggested the possibility of a further reduction.
5. And it recommended that three top-ranking railway executives from the United States be sent to India to assist in obtaining maximum efficiency in operations.
6. The Mission recommended a substantial increase in the utilization of bunders (rock-walled jetties) for the loading and unloading of

ships in the outer harbor. For this purpose it recommended the construction in India of a large number of barges and tugs, and agreed to endorse orders by the Government of India placed on the Lend-Lease Administration for the motors that would be required for the tugs It approved the construction of temporary storage sheds and of spur tracks on the bunders in order to facilitate the loading and unloading of the barges or lighters. And it agreed to use its influence to secure from the United States an adequate number of mobile cranes for this work.

7. To secure the maximum utilization of existing equipment at the regular docks, the Mission strongly advocates continuous operation in three 8-hour shifts.* It recommends that the penalties chargeo for work at night and on Sundays and holidays be abolished.† In their stead, it suggests the imposition of progressive penalties if export cargoes are not available on the docks so that loading operations may be commenced as soon as the unloading of the ship is completed.

8. The Mission does not approve the practice of sending negotiable bills of lading by ships following the actual cargo which such bills cover, and suggests that, inasmuch as this practice has often caused considerable delay in clearing cargoes, the negotiable bills of lading should accompany the cargoes to which they pertain, or be despatched via air mail.

9. The Mission was disturbed to find that ships were leaving the harbor of Bombay with inadequate fuel and water supplies because the facilities there could not provide promptly the necessary quantities. It recommends, therefore, that these facilities be expanded as rapidly as possible.

10. The Mission was informed of, and indeed saw for itself, the congestion of cargoes on the docks of Bombay. It urges that every effort be made to clear promptly these cargoes by rail; should this prove impossible, it suggests that cargoes be removed by motor truck to temporary storage.

11. Because of the congestion at the port of Bombay, the Mission recommends that full consideration be given to the utilization of other west-coast ports. It is ready to support orders for essential equipment at the ports of Karachi and Cochin when approved by the Department of Supply. It wishes also to call the attention of the Government of India to the Kathiawar ports, the facilities of which, it understands, are not now being fully employed.

12. The Mission recommends that an expert be sent from the United States to advise the Government of India on the improvement of harbor facilities in the west coast ports in order that the congestion there may be relieved.

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*At the time of the Mission's visit, a day shift was working from 8:00 to 12:30 and from 1:30 to 6:00, and a night shift from 7:30 to 3:30. The Mission was informed that the cargoes were rarely worked for the full 17 hours.

†At the time of the Mission's visit, only two entrance gates to the Alexandra Dock and two to Victoria Dock were kept open between 6:00 p. m and 6:00 a. m. unless a special customs fee was paid for additional facilities For each railway gate that was opened on Sundays or holidays, a customs charge of 200 rupees was made. If cargo was to be loaded or unload on Sundays or holidays, a fee of 300 rupees was charged by the Port Trust and an additional fee of 200 rupees by the customs. These fees operated to retard the most efficient utilization of port facilities.

13. Although the construction of additional all-weather roads in India may not be of immediate assistance in solving the acute problem of commercial transportation, the Mission believes that such roads would be of great military importance and value. It recommends, therefore, that a program of road building should be undertaken without delay, and is ready to assist in obtaining for the Government of India the requisite equipment.

14. The Mission recommends the expansion and adequate equipment of airports in India, particularly those strategically located for both offensive and defensive operations.

15. The Mission recommends that efforts be made to stimulate the transportation of materials by inland waterways. It particularly urges the use of waterways, where practicable, to relieve the railroads in the movement of bulk freight, such as coal, to and from Calcutta.

16. The Mission recommends that the Government of India undertake a survey of its telephone and telegraph systems in order to ascertain what steps need be taken to improve these services.

PETROLEUM.

Most of the petroleum resources of India are located in the Attock field in the Punjab and the Digboi field in Assam which produce, annually, 30,000,000 gallons and 66,000,000 gallons, respectively. This production is small in relation to India's needs, constituting about 15 per cent of ordinary requirements, excluding the demand from China and that arising out of the increased activity of the air and other military forces in India. Most of the petroleum requirements of India have, in the past, been supplied by Burma, the Netherlands Indies, and Iran, although substantial quantities of lubricating oil were imported from the United States. The loss of Burma and the Netherlands Indies has placed India in the difficult position of having to import large quantities of petroleum products principally from the United States. A substantial part of its needs, however, can be obtained from the Persian Gulf ports of Bahrein and Abadan. Imports which must be greatly increased are now controlled by the Petroleum Department in London, but the Government of India assumes that future supplies will be forthcoming from either the Persian Gulf or the United States.

There are two refineries in India. One is located at Digboi, Assam, and has a daily capacity of 6,500 barrels; it is operated by the Burmah Oil Company which is affiliated with the Anglo-Iranian Oil Company. The other refinery is situated at Rawalpindi, Punjab it has a daily capacity of 4,000 barrels, and is operated by the Attock Oil Company. These two refineries have a daily cracking capacity of 2,100 barrels each and are equipped to produce 70-octane to 80-octane gasoline.

Estimates of probable future consumption of petroleum products in India were given in a memorandum submitted to the Mission by the Government of India. A part of this memorandum is reproduced below.

"Estimated consumption, where possible, with brief comments is given here for the different main products. Figures are collated in table 4.

"A. *Kerosene.* Almost entirely used as an illuminant. No rationing measures at present in force, but bulk rationing can be introduced at very short notice.

White	550,000 tons a year
Red	280,000 " " "

"B. *Motor Spirit.* Civil consumption rationed and now cut by about 43% of prerationing figure. At present rates consumption is roughly 180,000 tons a year of which 24,000 tons only would be used in private cars.

"Military consumption is at present at the rate of 68,000 tons a year but how this figure will alter must depend on operational needs of which we have no figures at the moment.

"C. *Aviation Spirit.* There is no indigenous source of 100 O. N. base (from which alone 100 O. N. spirit can be made) and our requirements must come either from Abadan or the U.S.A. 87 O. N. and 90 O. N. spirits blended from indigenous bases require T.E.L. and 90 O. N. 100 O.N. base as well. We may be able to use a certain proportion of indigenous benzol for blending 90 O. N. spirit in part replacement of 100 O. N. base; this is being investigated.

"A separate statement of possible aviation spirit requirements is submitted in table 5.

"D. *Fuel oils.* (i) *Furnace oil.* Consumption may be divided between;

Industrial—roughly 350,000 tons a year largely by Bombay Textiles Industry.

Bunkers—figure impossible to estimate accurately but may go as high as 400,000 or 500,000 tons in 1942.
No rationing in force, but all deliveries controlled.

(ii) *Diesel oils.* Consumption may be divided between:

Industrial—300,000 tons a year.

Bunkers—impossible to estimate but may increase to 100,000 tons a year.

(iii) *Gas oil.* Consumption small at about 20,000 tons a year.

"E. *Jute batching oil.* Consumption depends basically on working hours of East India Jute Mills, but normal consumption, on whatever working hours basis, is susceptible to a cut of 50% in extreme emergency and is already cut by 25%. Consumption between 60,000 and 100,000 tons a year.

"F. *Lubricants.* With the loss of Burma practically all requirements must now come from the U.S.A. Military consumption is now estimated for 1942 at 54,000 tons including Iraq maintenance. Civil consumption is roughly 90,000 tons a year. Castor oil now largely used for railway axle lubriention and use of vegetable oil blends for industrial purposes on large scale likely in near future. Stocks under indirect government control."

Table 4.—Petroleum products: estimated annual consumption in India[1] (In long tons).

Products.	Quantity.
Kerosene:	
White	550,000
Red	280,000
Motor gasoline:	
Civil	180,000
Military	68,000
Fuel oils:	
Furnace: Bunkers	300,000/500,000
Industrial	350,000
Diesel: Bunkers	100,000
Industrial	300,000
Gas oil	20,000
Jute batching oil	60,000
Lubricants:	
Civil	90,000
Military	54,000

[1] Excluding aviation gasoline and lubricants for which see table 3.
Source: Department of Supply, Government of India.

Table 5.—Aviation gasoline and lubricants: estimates of India's possible maximum requirements by the end of 1942[1] (In imperial gallons per month).

	Gasoline		
	100 O. N.	Other Grades.	Total.
R. A. F.	2,875,000	925,000	3,800,000
U. S. transport	225,000	900,000	1,125,000
U. S. ferry, etc.	1,090,000	...	1,090,000
R. I. N.	...	125,000	125,000
Total	4,190,000	1,950,000	6,140,000
PLUS			
U. S. Army Air Corps	Not yet known.		
China	Up to 1,000,000 grades not known.		

	Lubricants.		
	100 Viscosity.	120 Viscosity.	Total.
R. A. F.	127,000	63,000	190,000
U. S. transport	...	56,000	56,000
U. S. ferry, etc.	...	54,000	54,000
Total	127,000	173,000	300,000

[1] Estimates prepared in General Headquarters.
Source: Department of Supply, Government of India

Exploration for petroleum.

A moratorium on all prospecting in India was imposed at the instance of the United Kingdom in September 1940. Since then, various sources of supply for petroleum have been lost to the United Nations, and it now appears desirable to develop further the fields in India. Should prospecting be resumed, however, the Government of India has stated that assistance would be required from the United States, or elsewhere, in the provision of technical personnel, prospecting equipment, and ultimately of equipment for refineries.

Industrial alcohol

Industrial alcohol can be produced in India from molasses, now a waste by product of the sugar industry. Two plants for the manufacture of industrial alcohol, having an annual capacity of 750,000 gallons each, are already on order in the United States, and the Government of India wishes to place orders for 10 additional plants of comparable capacities. In view of the greatly increased demand in India for petroleum products, including motor fuel. it would seem desirable to stimulate the production of industrial alcohol and thus conserve petroleum, refining capacity, and shipping space.

Drum containers.

A further problem pertaining to petroleum products in India is that of containers necessary for the transportation and storage of such products. The production of 5-gallon tin containers is adequate to meet Indian requirements. The Government of India, however, has estimated that additional drum-making equipment capable of producing 80,000 drums a month will be required to meet the increased demands of the armed forces of India, the United States, and China.

Recommendations.

1. The Mission assumes that arrangements have been made through the Petroleum Department in London to secure for India its requirements of petroleum and petroleum products. Should the Government of India fail to receive adequate supplies to meet military and essential civilian demands, the Mission agrees to lend its assistance.

2. To insure the receipt in India of adequate supplies of aviation gasoline (100-octane) and for other strategic reasons, the Mission has recommended that a refinery be established at Bahrein to augment the quantities now being made available at Abadan.

3. The Mission recommends that the exploration of potential petroleum fields in India be resumed, and is ready to assist the Government of India in obtaining needed supplies and personnel.

4. The Mission recommends that the material and equipment required for the construction of 12 plants for the production of industrial alcohol be made available to the Government of India under provisions of the Lend-Lease Act.

5. The Mission recommeds that the necessary equipment for the manufacture of 80,000 drums a month be made available to the Government of India under the provisions of the Lend-Lease Act.

ELECTRIC POWER.

India's electric power is produced almost entirely to meet industrial demands. The proportion of the total load consumed in buildings and private homes is quite small. Much of India's electrical generating capacity is owned by private utilities, Provincial and State Governments, and municipalities,

although a number of industrial concerns own and operate plants producing electrical energy for their consumption alone. The investment in all these plants amounts to about $300,000,000 and their annual capacity to about 2,700 million kilowatts.

The distribution of electrical generating plants in India is uneven, being concentrated in the principal industrial centres and in the port cities. The productive capacities of these plants in kilowatts are indicated below by principal districts.

Province or State	*Capacity (kilowatts)*[1]
Bengal	[2]366,000
Bombay	[3]310,000
United Provinces	[4]140,000
Madras	[5]129,000
Bihar	[6]111,000
Punjab	97,000
Mysore State	61,000
Delhi	31,000

The Provinces of Bengal and Bombay, in which are located the largest ports and industrial centres of the country, are by far the leading producers of electric power. Because of their location and previous industrial development, these two provinces have also been the centres of most of the expansion of war industries. As a result the shortage of generating plants is more acute in these two Provinces than elsewhere. Except for Cawnpore and the Presidency of Madras, however, there is very little reserve power in any of the provinces or States of India. Power, therefore, must be a prime consideration in any program involving either the movement of existing industries or the establishment of new industries.

To prevent the consumption of electrical equipment and wire for non-essential purposes, and to conserve surplus generating capacity, governmental control has been established over all generating and distributing systems in India. This control is exercised by a new agency known as the Central Electric Power Control Board, of which the Electrical Commissioner is a member. Shortly after its creation the Board issued orders to all utilities in India, prohibiting any new service connections that are not essential for war needs.

The Government of India anticipates the installation of a number of extensions to plant capacities in electrical utilities by the middle of 1943. From orders already placed for generators it is expected that 12, with capacities aggregating 40,750 kilowatts, will reach India before the end of 1942 and will be in operation a few months thereafater. Most of this equipment, however, is designed to meet over loaded conditions in the various utilities by which it was ordered. A project to expand the Tata Hydroelectric System in the Bombay area will provide about 16,000 kilowatts of firm peak capacity and about 130,000,000 kilowatts annually, but most of this power will be required to meet the increased demands of existing consumers, including the railways. There is also a project designed to increase the production of electrical energy

[1] The capacities of self-contained factories are not included, except as noted.
[2] Of this amount 289,000 kilowatts are in the Calcutta area and 26,000 are at the Steel Corporation of Bengal.
[3] Principally the port area and city of Bombay, including railways.
[4] Of this amount 43,000 kilowatts are in the city of Madras.
[5] Of this amount 64,000 kilowatts are in Cawnpore.
[6] Of this amount 80,000 kilowatts are produced by the Tata Iron and Steel Company, Ltd.

at Jog Falls, in Mysore, by 48,000 kilowatts. This additional capacity will be fully utilized by the new plants that are now being installed there for the production of war materials. It is essential, therefore, that this project be completed promptly.

Recommendations.

1. The Mission recommends that the projects for the expansion of the production of electrical engery in Bombay and Mysore be completed as rapidly as possible and that every effort be made to expedite the delivery of other electrical generating equipment now on order.
2. The Mission recommends that, whenever the demand of war industries for electrical power exceeds the supply, the Central Electric Power Control Board should curtail the services extended to nonessential consumers or to consumers which are not in a position to utilize the total load customarily made available to them. The jute mills, for example, operating at very much less than capacity. In the Calcutta area a substantial saving of power could be effected by concentrating production in those jute mills necessary to supply current demands and by closing the others.
3. The Mission is of the opinion that for a long-term program, attention should be given to the development of hydroelectric power. But, inasmuch as the completion of most projects of this nature would require several years, the Mission does not believe that they should be considered as a part of any program to increase the production of war materials in India. In fact, the Missionrecommends that the launching of any substantial hydroelectric projects be delayed until the war is ended. Meanwhile, to provide the power neeessary for the expansion of Indian industry, the Mission suggests the installation of steam or diesel plants for the generation of electrical energy.

IRON AND STEEL

Steel is basic to industrial production of almost every kind. The steel industry, therefore, is a key industry and the production of steel is often regarded as an index of a country's general industrial production. India is fortunate in having an efficiently operated steel industry and in having within its own borders all of the raw materials essential to the manufacture of steel. Its deposits of iron ore are high-grade and very large. Its deposits of coal are adequate to support for many years a much bigger steel industry than the present one, and its deposits of manganese ore much more than adequate for that purpose*

Iron ore.

India is the second largest producer of iron ore in the British Empire, being exceeded only by the United Kingdom. About 3,000,000 tons of iron ore are mined annually in India. Mining operations are centered chiefly in the Singhbhum district of Bihar, and in nearby States; small quantities are also mined in Mysore State. Almost all of the Iron ore mined in India is sent to iron works within the country for smelting, but in past years substantial quantities were exported to Japan. Exports from India are now chiefly in the form of pig iron and amount to about 500,000 tons annually, all of which are shipped to the United Kingdom.

The reserves of iron ore in India are probably the largest in the world and are superior in quality to those of any other country. In the Singhbhum

* See section on Nonferrous metals, Manganese ore.

district alone the reserves of iron ore with an iron content in excess of 60 per cent are estimated at not less than 3,000 million tons and may amount to as much as 20,000 million tons. In Baster State the reserves are estimated at 724,000,000 tons of high-quality ore. There are also important deposits in neighboring districts of the Central Provinces, one of which in the Rajhana Hills is estimated to contain 2,500,000 tons of ore with a 67½ percent iron content.

The quantity of iron ore mined in India in recent years is shown in table 6, together with the quantity of pig iron produced therefrom and the quantity of steel produced from the pig iron devoted to that purpose.

Table 6.—Production of iron ore, pig iron, and steel, in India, 1937-40.

(In thousands of tons)

Year.	Iron ore.	Pig iron.	Pig iron used in steel production.	Steel.
1937	2,871	1,621	802	665
1938	2,744	1,540	852	693
1939	3,166	1,757	893	742
1940	3,103	1,994	1,094	934

Source: Department of Supply, Government of India.

Coal and Coke.

The coal resources in Bengal and Bihar have been estimated at 60 billion tons, of which 20 billion are considered workable, and reserves in the Central Provinces and Berar have been estimated at 17 billion tons, of which 5,150 million are considered workable. In addition, there are coal resources ranging from 60 million to 80 million tons in the Langrin plateau of Assam, and 70 million tons in Nongstoin. Reserves of coal suitable for the manufacture of metallurgical coke have been estimated at 500 million tons, of which approximately one-half will be lost in the process of mining under existing methods; these reserves are being consumed at the annual rate of about 15 million tons, and are being used largely for purposes other than the manufacture of coke. Should the reserves of coal suitable for coke be devoted exclusively to that purpose, they would last for many years, even though the production of iron and steel should be greatly increased. The coking coal of India, although satisfactory for smelting purposes, is not of the best quality, having a substantial ash residue.

The total production of coal in India has ranged from 25 million tons in 1937 to 29 million tons in 1940. Exports of coal from India in recent years have amounted to about 2 million tons. Table 7 shows the annual production of coal in India, together with the amounts used for the manufacture of coke and the quantity of coke produced therefrom.

Table 7.—Production of coal and coke in India, 1937-40.

(In thousands of tons)

Year.	Coal.	Coal used for coke making.	Coke.
1937	25,036	2,638	1,867
1938	28,343	2,398	1,711
1939	27,769	2,694	1,917
1940	29,388	2,985	2,109

Source: Department of Supply, Government of India.

Iron and steel industry.

Production.—The annual production of pig iron in India rose from 1,750,000 tons in 1939 to 2,000,000 tons in 1942. Modifications in existing furnaces may further increase production to 2,100,000 in 1943. Of this amount, it was planned that about 500,000 tons would be exported to the United Kingdom, 100,000 tons would be used in the Iron foundries of India, and the remainder would be consumed in the production of steel. Prior to the war the total annual output of finished steel in India was 750,000 tons. Since then, plant capacity and annual production have been increased; in 1942 production was at the annual rate of 1,200,000 tons. And this may be increased to 1,500,000 tons by projects fot the expansion of plant capacities now under consideration.

Producing companies. The Tata Iron and Steel Company, located at Jamshedpur about 150 miles west of Calcutta, accounts for approximately 75 percent of the total production of steel in India. It is reported to be the largest single steel plant in the British Empire. The plant is equipped with modern machinery which is efficiently operated. The Steel Corporation of Bengal has the second largest plant in India and accounts for about 17 percent of that country's production. It, too, is equipped with modern and efficient machinery. The Government Metal and Steel Factory at Ishapore is the third largest steel plant in the country, but produces only high-quality steels for armaments. The fourth largest steel plant is the Mysore Iron and Steel Works which annually produce about 25,000 tons of light structural shapes and bars. In addition to these four concerns, a number of small mills operate partially or wholly on scrap and produce light shapes and bars chiefly for the bazaar trade. There are 13 electric furnaces in the country; most of these have a capacity of four-fifths ton, but one has a capacity of 10 tons, and two, of 2 tons each.

The Tata Iron and Steel Company, which manufactures a wide variety of steel products, has five well-equipped blast furnaces which, in 1941, produced 1,237,000 tons of pig iron and 29,000 tons of ferromanganese. Of the pig iron produced in that year, 1,015,000 tons were used in the molten state at the foundry and the steel-melting shops. The remaining 222,000 tons were made into pigs which were either sold or consumed at the works. The production of ferromanganese in 1941 exceeded plant requirements which are about 12,000 tons a year. The 40-inch blooming mill has a capacity of 1,000,000 tons a year, provided it is not required to roll alloy steel ingots; the maximum tonnage produced by this mill was 953,599 in 1941. In addition, the company has a continuous sheet bar and billet mill with a maximum production of 577,289 tons, a semicontinuous Morgan mill with a maximum production of 172,344 tons, a plate mill with an annual capacity of 82,000 tons, and sheet mills with an annual capacity of 160,000 tons of black sheets, averaging 24-gage. The sheet mills contain hot mills, finishing mills, an annealing section, and a galvanizing section which has an annual capacity of 125,000 tons of galvanized sheets of 24-gage. On November 29, 1941, the Tata Company began the manufacture of railway wheels, tires, and axles which are produced from its own acid open-hearth steel. The company is also operating a benzol and toluol plant on behalf of the Government of India. It has installed two electric furnaces capable of producing about 1,500 tons of high-quality steel a month, and is operating an ingot mold foundry to increase the output of castings. In addition, the company has extensive repair shops, machine-tool shops, laboratories, and a technical training school. The company is producing a large number of special steeln including bullet-proof armor plate, for use in the manufacture of munitions is, India.

The Steel Corporation of Bengal also has a modern and efficiently equipped plant which includes steel furnaces with an annual capacity of 250,000 tons of ingots, and a new Sachs blooming mill with an annual capacity of 600,000 to 700,000 tons. Its finishing mills are capable of handling the quantity of steel which could be rolled in the blooming mill. The equipment at the Government Metal and Steel Factory at Ishapore and at the Mysore Iron and Steel Works is being modernized and the capacities of these plants are being expanded.

Expansion of Production.—Various projects for the expansion of equipment essential to the production of steel are now being considered by the Government of India and the steel companies concerned. These extensions, for some of which the equipment has already been ordered, include the following :

Firm.	*Type.*	*Annual capacity Tons.*
Tata Iron & Steel	Perrin plant :	
	Acid steel	50,000
	Basic steel	150,000
Steel Corporation of Bengal	90-ton open hearth	75,000
Ishapore (Government)	Three 25-ton furnaces :	
	Special steels	25,000
Mysore	25-ton furnace :	
	Basic steel	20,000
Cawnpore	10-ton open hearth	10,000
	Total	330,000

Source : Department of Supply, Government of India.

Production at the Tata Iron and Steel Company is limited by the capacity of its blooming mill which is taking the company's entire annual output of 1,000,000 tons. This, however, is inadequate to keep the secondary mills operating at capacity. The company is proposing to install a new Perrin-process plant which will increase its annual output of ingots by 200,000 tons ; production will then exceed the blooming capacity by at least 100,000 tons. The company proposes, therefore, to install a billeting mill that will relieve the blooming mill and provide adequate steel to keep the production of secondary mills at a maximum. In addition to these projects for plant expansion, the Tata company is planning, with the aid of the Government of India, to erect three other plants : A plant for the manufacture of special alloy steels, with a capacity of 50 tons a month, a plant with a 15-ton furnace for the manufacture of ferro-alloys, such as ferromolybdenum and ferro-tungsten, and additional equipment to enable the mill manufacturing steel plates to operate, on a three-shift basis, at the rate of 10,000 to 12,000 tons a month.

The Steel Corporation of Bengal has a new Sachs blooming mill with an annual capacity of 600,000 to 700,000 tons of ingots. At the time of the Mission's visit this mill was being fed by steel furnaces with an annual maximum production of 250,000 tons of ingots. A project is being considered by the Government of India and the Corporation to increase the capacity of the melting shop in order that an additional 400,000 tons of ingots can be made available to maintain the operation of the blooming mill at capacity. To secure these additional ingots without the erection of blast furnaces, it would be necessary for the Corporation to obtain a substantial amount of pig iron customarily exported to the United Kingdom. The Indian Iron and Steel Company has adequate capacity to feed the new melting furnaces,

provided it is released from its contract to supply the United Kingdom with 32,000 tons of pig iron a month. The Mission understands that this release has been obtained and that negotiations between officials of the Government of India and the Steel Corporation of Bengal are now in progress for the expansion of the melting shop.

Other projects for the expansion of the production of steel in India include the installation of three 25-ton furnaces for the manufacture of special steels in the Government Metal and Steel Factory at Ishapore, and the erection of a 25-ton furnace for the production of basic steel by the Mysore Iron and Steel Work. In addition, there is a 10-ton open-hearth furnace at Cawnpore which, at the time of the Mission's visit, had not been placed in operation.

Projects to increase the production of iron and steel in India must also include a consideration of transportation facilities and of the availability of adequate supplies of water and power. The railroads of India are already greatly overburdened by increased traffic arising out of the war and the temporary closing of the port of Calcutta, and by the loss of rolling stock and locomotives sent to the Middle East. Any substantial increase in the production of iron and steel will place an even greater burden on the railroads which cannot cope with existing traffic. If an increase in the operations of steel mills is contemplated, adequate provisions must be made to move the necessary iron ore and coal to the mills and to move the finished products to their ultimate destinations. With foresight the necessary quantities of water can probably be obtained, but planning is essential because of the seasonal character of the rains. Finally, in any substantial program for the expansion of the Industry, provision must be made for the increase of existing facilities for the production of power because the principal steel companies are already taking the capacities of their generating plants.

Government control.—Despite the considerable increase in the production of steel in India, the present supply is inadequate to meet all of the military and essential civilian requirements of the country. Before the war India imported annually about 300,000 tons of steel; since the outbreak of the war, these imports have been greatly reduced, amounting in 1941 to only 100,000 tons. The Government of India believes that India's minimum import requirements for 1942 are 250,000 tons, and that 600,000 tons could be used for war purposes if that amount could be made available.

Since August 1941, the distribution of the whole of India's production of steel has been rigidly controlled by a combined licensing and quota system. The use of tin and of spelter for galvanizing either corrugated or plain sheets is controlled by the Director-General, Munitions Production, as are all ferro-alloys. The steel control has complete authority over the transfer of all available supplies, both imported and domestic. Exports are prohibited except for essential war purposes, and a strict export licensing system is enforced. All applications for import licenses for steel must be approved by the Steel Import Controller. Importers are required to provide full information concerning the specific use for which the material is intended. In this way the Government of India is able to insure that steel is utilized only in the satisfaction of military and essential civilian requirements.

Recommendations.

1. The Mission endorsed the projects for the expansion of plant capacity by the Tata Iron and Steel Company, Ltd. These projects were also approved by the Government of India, and the Mission agreed to use its influence to secure priorities in the United States adequate to provide for the delivery of the necessary equipment and materials.

2. The Mission approved the projected expansion of production by the Steel Corporation of Bengal and urged that it be undertaken promptly. It agreed to use its influence to secure priorities adequate to insure the delivery of equipment and materials which might be ordered in the United States. In view of the acute problem of transportation created by the closing of the port of Calcutta, the Mission expressed the opinion that the pig iron formerly exported, under contract to the United Kingdom could be more usefully employed by expanding the production of steel in the plant of the Steel Corporation of Bengal. The Mission was gratified to learn that, prior to its departure from India, this arrangement had been made with the Government of the United Kingdom.

3. Inasmuch as all of the steel to be obtained from the planned expansion of productive facilities has already been allocated to war or essential civilian uses, the Mission expressed the view that any considerable increase in industrial production would require a further expansion of the productive capacity of the steel companies. The Mission therefore urged that serious consideration be given to the early acquisition of additional equipment and materials for the manufacture of steel.

4. Most of the essential raw materials for the manufacture of tool steel are available in India. A very large part of its requirement, however, must be imported. The Mission recommends, therefore, that a plant for the manufacture of tool steel be erected in India.

5. The attention of the Mission was called to the quality of steel produced by the electric furnaces in India. These furnaces are not now producing the high-quality steels of which they are capable. The Mission recommended that this situation be rectified as promptly as possible and, in accordance with the request of the Government of India, agreed to attempt to secure the services of two qualified experts from the United States to assist in this project.

6. In any program for the expansion of the production of steel in India, the Mission recommends that special attention be given to the problems of providing adequate supplies of water and power and of securing the requisite equipment for transporting the raw materials and the finished products.

MUNITIONS

Before the war India had six ordnance factories devoted to the production of munitions. These were the Metal and Steel Factory at Ishapore, the Gun and Shell Factory at Cossipore, the Rifle Factory at Ishapore, the Gun Carriage Factory at Jubbulpore, the Cordite Factory at Aruvankadu, and the Ammunition Factory at Kirkee. When the war began India was engaged in implementing a plan, recommended by a committee under the chairmanship of Lord Chatfield, which provided for the expansion and modernization of these ordnance factories and the establishment of a seventh plant for the production of high explosives. Most of the recommendations of that committee were put into operation by the end of 1941. In the fall of 1940, a Mission from the British Ministry of Supply, under the chairmanship of Sir Alexander Roger, visited India to determine how the industrial production of that country could best be expanded. The Roger Mission recommended a large number of projects for the manufacture of Munitions, chief among which

were the establishment of factories for the production of (1) Bren Guns, (2) shells and mortar bombs, (3) fuses, (4) cartridge cases, (5) ammunition, and (6) scientific instruments. Most of these projects, as well as others recommended by that Mission, have been approved by the Government of India, and work on a number of them has been undertaken.

In addition to the expansion of existing munitions factories and the establishment of new ones, the Government of India has found it necessary to take over four railway workshops which are now being utilized in the production of war materials. One of these workshops was converted into an ordnance factory, a second one is producing munitions and armored vehicles, and the other two are being utilized principally for the production of armored vehicles.[1] A number of other railway workshops are partially engaged in the production of war materials for the Government, and this production is being supplemented by the manufacture of war materials in the workshops of more than 200 private concerns.

Recommendations.

1. The Mission is of the opinion that the present program for the manufacture of rifles is inadequate to meet the Army's requirements for expansion and replacements. It therefore recommends that a new rifle factory, at least equivalent in capacity to the present one at Ishapore, be established at Cawnpore. This location appears to be desirable because a factory building and adequate power are available there.
2. The Mission recommends the establishment of a plant for the production of shells not to exceed 6" in size. It is the opinion of the Mission that a considerable saving in transportation could be effected if the capacity of this plant were adequate to care for anticipated needs in the Middle East and China, as well as in India.
3. The Mission urges the most efficient utilization of existing equipment. It believes that increased production can be obtained by improving the arrangement of machinery in the various plants and by concentrating in specific plants the manufacture of certain types of munitions. At the request of the Government of India, the Mission agreed to attempt to secure the services of a number of production engineers from the United States who would advise the Government of India on these problems.
4. The Mission recommends that every possible effort be made to achieve promptly the objectives established by the Government of India for the production of the various types of munitions.
5. The Mission further recommends that, in those instances in which the production of munitions may be retarded by a shortage of power, a rigorous system of priorities be invoked to curtail its nonessential uses.

ARMORED VEHICLES.

Shortly after the outbreak of war a Tank Development Board was established to design an armored carrier that could be constructed in India. Previously no armored fighting vehicles had been produced there; now it is necessary to import only the chassis on which the armored bodies are mounted. The first vehicles to be designed and put into production was the Mark I Wheeled Carrier based on a standard V-8 Ford chassis' fitted with a

[1] See section on Armored Vehicles immediately following.

special front axle unit, radiator, and gasoline tank. The body was armored with 6 mm plate produced in India.

Later it was discovered that the Mark I Carrier was restricted in usefulness to general reconnaissance work. It was therefore decided to produce an improved type of carrier. As a result the Mark II Carrier was developed, with a rear engine Ford chassis having a 101-inch wheel base and 4-wheel drive. These chassis are imported from Canada. The armor on the Mark II body ranges from 14 mm in thickness, depending upon the vulnerability of the points to be protected.

The armored Vehicles now being produced in India may be divided into three classes. The *armored carrier* is a wheel vehicle on a Ford chassis with an open-type body, the body weight of the armor being about 2½ tons.[1] *Armored cars* are similar in type except that they have a somewhat heavier body, which is closed, with a revolving turret mounted on the top. The *armored general-purpose vehicle* is also a wheeled vehicle on a Ford chassis, the body being rectangular and covered with about 2½ tons of armor.[1] These last-named machines are used for the movement of troops and supplies, especially on border patrol.

The projected maximum production of armored vehicles in India is 600 a month, to be composed as follows:

Armored cars and carriers	500
Armored general-purpose vehicles	100
Total	600

It is anticipated that the production of 600 armored vehicles a month will be realized in July or August 1942. Three plants are now engaged in the manufacture of these vehicles and each one is scheduled to produce 200 a month. These plants, which were formerly railway workshops are located at Singhbhum, Tatanager, and Kanchrapara.

Production of armored vehicles in India cannot be increased without the installation of a new assembly plant and the procurement of additional armor plate by importation, or by the expansion of the plate-rolling capacity of the steel mills. The present program requires the delivery of 1,700 tons of armor plate each month, but even that amount cannot be obtained without importing substantial quantities. With existing equipment, India's capacity to produce armor plate is 750 tons a month. This might be increased to 1,000 tons a month, but only by reducing the production of other plate which is urgently required for defence purposes, such as ship repairs and the construction of a 50,000 tons drydock. Because of this situation, the Mission recommended by cable that the United States furnish to India 1,000 tons of armor plate a month. This amount, requested by the Government of India appears necessary to maintain India's present program for the production of armored vehicles.

Recommendations.

1. The Mission recommends that every effort be made to reach and maintain the scheduled production of 600 armored vehicles a month. It believes that this schedule can be maintained more easily after improvements are made in plant organization and assembly methods.
2. In order to permit the execution of the present program; the Mission has recommended to the Governmen of the United States that it

[1] As reported to the Mission by officials of the Government of India.

provide through the Lend-Lease Administration 1,000 tons of armor plate a month for export to India.

AIRPLANES.

In the latter part of 1940 the Government of India decided to lend its support to the Hindustan Aircraft Company, Ltd., of Bangalore, Mysore State, for the construction of an aircraft factory. The Government of India now owns a two-thirds interest in the company and the remainder is owned by the State of Mysore. For the period of the war the Government has complete administrative and financial control over the factory.[1] This company, which has the only aircraft factory in India, employs 29 American supervisors and 3,400 locally trained Indian mechanics. It has a metal-working and component assembly plant, a foundry machine shop, and an assembly and erection hangar, the total floor space of which aggregates 230,000 square feet. A new hangar for maintenance with floor space of 25,000 square feet is under construction. Its airport has two surface runways, one 3,800 feet and the other 5,000 feet in length. It also has mooring and beaching facilities for seaplanes, and a maximum run of 9,300 feet.

The Hindustan Aircraft Company has been manufacturing wooden and metal air-frame components. With these, and with engines, instruments, and other parts imported from the United States and the United Kingdom, the company has been producing finished planes. At present the company has under contract the manufacture of 30 Harlow trainers; 24 Vultee bombers, 48 Hawk fighters, and 10 training gliders. By April 1, 1942, three trainers, one fighter, and one glider had been delivered. The company has also undertaken the manufacture of 600 52-gallon drop tanks for Hawk and Mohawk fighters. In addition, it is servicing, overhauling, and repairing a substantial number of planes for the armed services of the United Nations.

The mission understands that officials of the company are anxious to continue the assembly of planes at the factory in order that the labor force may be maintained intact. The Mission finds itself in sympathy with this view but wishes to point out that, as air activity in India is increased, there will be a marked demand for facilities to repair aircraft. The Mission is of the opinion that steps should be taken to adjust plant machinery so that the company would be properly equipped for this important task. Provision should be made for the overhaul of engines, the manufacture of certain spare parts (especially those that are bulky, light, and frail), and the maintenance of supplies of other spare parts. The Mission believes that it is impossible to overemphasize the importance of so equipping the company that it may be able quickly to repair the airplanes which have been and are being sent to India by the United Kingdom and the United States.

In March 1942, the repair of airplanes was undertaken on a modest scale by the ordnance factory at Kanchrapara, near Calcutta. The repair work, however, has been severely handicapped by the absence of equipment and of propellers and other spare parts.

Recommendations.

1. The Mission recommends that emphasis be placed on the repair and maintenance of planes in India rather than upon their manufacture.
2. It recommends that every effort be made to obtain the equipment necessary to expedite the repair of planes at both Bangalore and

[1] The technical operations are under the control of Mr. W. D. Pawley, President of the Inter-Continent Corporation of New York. Since 1934 Mr. Pawley has also organized, financed, and managed the Central Aviation Manufacturing Co. in China. He also operates two aircraft factories in the United States.

Kancharapara, and that adequate supplies of spare parts be maintained at these repair centers.

3. Because of the importance of this work the Mission is ready to use its influence to obtain for the Government of India the equipment and materials that will be necessary to carry out these recommendations.

SHIPBUILDING AND SHIP REPAIRS.

Shipbuilding.

The Royal Indian Navy has been increased considerably since the outbreak of the war. James Fighting Ships, in 1940, lists five escort vessels, one patrol vessel, one trawler, and one surveyor; the book states that, in addition, a number of merchant vessels have been taken over for service in the Navy. The Mission understands that the construction program for the Indian Navy includes the following:

37 trawlers, 5 corvettes, 8 wooden mine sweepers, 6 Fairmiles (fast antisubmarine motorboats), 12 light-draught motor launches, 72 feet in length, 2 floating docks, 88 Z craft, 46 skids, 2 mine-sweeping tugs, a seagoing waterboat, and a number of small motor launches.

In 1941 the annual capacity of India's shipyards was 50,000 gross tons.[1] These shipyards, however, cannot build large vessels; special equipment, including boilers and engines, must be imported. They do produce a variety of small crafts; in October 1941 they were fully engaged in the production of about 200 vessels of various sizes. Recently, the construction of a shipyard was undertaken at Vizagapatam which will have a maximum capacity of 8,000 tons when the plant and equipment, on order from the United Kingdom, are delivered. Except for this yard and those at Calcutta and Bombay, the shipyards of India, because of size and equipment, are confined chiefly to the construction of wooden vessels. The port of Cochin, for example, has one yard equipped to construct wooden ships 100 feet in length and a firm at Karachi can produce such ships 72 feet in length. In addition, there are a number of small boat-building firms located in the Cutch, Kathiawar, and Malabar ports.

Of the ships now being produced in India, the corvettes, with a length of 180 feet, and the Bangors, with a length of 171 feet, 6 inches, are the largest. The latter has displacement of 689 tons and a speed of 16 knots. Other classes include the Basset Trawlers which have a length of 150 feet and a speed of 12 knots, Fairmiles, 72-foot motor launches, motor mine sweepers, tugs, lifeboats skids, and tank-landing craft. The principal types and numbers of ships under construction, in India in March 1942, and the locations in which they are being constructed, are shown in table 9.

TABLE 9.

NAVAL CRAFT: TYPE AND NUMBER UNDER CONSTRUCTION IN INDIA. APRIL 1942.

Type of Vessel.	Calcutta.	Bombay.	Cochin.	Karachi.	Vizagapatam.	Madras.
Corvettes, 180 ft.	3	—	—	—	—	—
Bangors, 171 ft. 6 in.	4	—	—	—	—	—
Basset Trawlers, 150 ft.	25	6	—	—	2	—
Fairmiles, 110 ft.	[2]18	—	—	—	—	—
72 ft. motor launches	6	3		3	—	—
105-ft. motor mine sweepers.	—	—	8	—	[3]4	[3]2

[1] Source: U.S. Maritime Commission.
[2] Including the completion of two vessels from Rangoon.
[3] Vessels from Rangoon that are being completed in India.
Source: Department of Supply, Government of India.

Ship repair.

The importance of India in maintaining in serviceable condition the war and merchant fleets of the United Nations has been greatly increased by the loss of ports in the Malay Peninsula, the Netherlands Indies, and Burma. Moreover, this repair work, which would customarily be distributed among the ports now in possession of the enemy, has been augmented by enemy action, and is now concentrated in the west-coast ports of India because of the operations of the Japanese fleet in the Bay of Bengal. Among the west-coast ports only Bombay has appreciable facilities for the repair of ships. In consequence, temporary repairs, sufficient to enable damaged ships to proceed to ports outside of India, are all that is possible in many instances. Even this task is a severe strain upon the available facilities.[1] The only naval dockyard in India is that of the Royal Indian Navy at Bombay. The facilities at this dockyard are limited, and, should the necessity for repairs and the maintenance of naval vessels of the United Nations be increased, it is likely that such work would encroach on the limited facilities available for merchant ships. The Mission believes it to be of the utmost urgency that existing repair facilities of the west-coast ports should be utilized to the muximum and that such facilities should be expanded as rapidly as possible.

A summary of the repair facilities of the principal ports of India is given below:

1. *Calcutta.*—The port of Calcutta is probably the best equipped in India for the repair of ships, although it is short of berthing accommodations for such work. It has one large tandem drydock and three smaller drydocks. There are three major[2] and several minor firms engaged in the repairing of vessels.

2. *Vizagapatam.*—This port has a small natural harbor. Facilities for ship repairing are inadequate but a new shipbuilding yard is now under construction there. Assuming the delivery of the requisite plant and materials from the United Kingdom, it could be made suitable for the repair of ships within a few months. The Port Trust is now able to undertake minor repairs and the docking of small craft.

3. *Madras.*—The harbor at Madras is artificial and facilities will permit only above-water and limited major repairs. It has no drydock but does have a small-craft slipway. Repairs are customarily undertaken by either the Port Trust or a private concern,[3] and these are sometimes assisted by smaller concerns and a railway workshop.

4. *Karachi.*—Repair facilities in the natural harbor of Karachi could be expanded to relieve congestion at Bombay. This port, however, has one small drydock which is capable of handling only harbor craft. Three major firms are engaged in the business of ship repairing.[4]

5. *Bombay.*—Bombay has a large natural harbor. There is, however, an acute shortage of berthage for ship repair. The port has one large tandem drydock and three smaller docks. It also has a slipway for small vessels. The repairing of vessels is chiefly in the hands of three private concerns and the Royal Indian Navy Dockyard.[5]

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[1] For a previous reference to this subject, see section entitled "Ports."

[2] These three companies are the Garden Reach, the Shalimar, and the Hooghly Dock Co.

[3] The private company is known as Binny & Co.

[4] These firms are Herman & Mohatta, Ltd., the Karachi Engineering Works and Foundry, and the Dock Engineering and Welding Works.

[5] These private concerns are Mazagon Dock Co., Alcock and Ashdown, and the Indian Steam Navigation Co.

6. *Cochin.*—The natural harbor of Cochin has limited facilities for repair-ships. There is only one small drydock for harbor craft, and additional berths for repairs are urgently required. Moreover, the port is deficient in facilities for the watering and fueling of ships. The repair work is carried on chiefly by the Port Trust and a private concern, both of which are handicapped by the lack of adequate equipment.[1]

Recommendations.

1. The Mission recommends that existing facilities for the repair of ships at west-coast ports should be fully utilized.

2. To achieve this objective, it recommends the continuous operation of these facilities in three 8-hours shifts and the discontinuance of shipbuilding and all other construction that might interfere with the work of repair.

3. The Mission recommends the expansion of facilities for the repair of ships in west-coast ports by the transfer of light, movable equipment from east-coast ports and by the importation of equipment from the United Kingdom and the United States. In this connection the Mission has given its endorsement to a list of equipment required by the port of Bombay and stands ready to endorse similar orders for other west-cost ports, including Karachi and Cochin.

4. Wherever possible, it urges the utilization of additional repair berths and the location of buoys for mooring ships close to repair shops so that work might be diverted from the docks to the stream.

5. The Mission is fully aware of the importance of ship construction to the Royal Indian Navy and to the cause of the United Nations. It recommends, therefore, the continuance at east-cost ports of the program of ship construction, provided that adequate materials can be made available without retarding other more essential projects.

INDUSTRIAL PRODUCTION.

The Mission, in its visits to industrial plants throughout India, had an opportunity to observe operations in privately owned factories and those owned by the Government. Based on its observations, the Mission believes that it will be possible to attain a substantial increase in the production of many articles essential to the prosecution of the war by an improvement in plant and industrial organization. In a number of plants productive efforts were less effective than they might otherwise be because many different articles were being produced simultaneously. This practice, which is apparently quite general in India, prevents the application of mass-production methods and retards production by making it difficult, if not impossible, to segregate into their simplest components the tasks to be performed. Frequently production was further retarded by the inefficient placement of machinery and by the excessive handling of articles arising out of such placement. Provision for adequate light and air and the installation of cement floors in some plants would operate to increase the speed and accuracy of production, and to protect valuable machinery.

The Mission observed that, in some cases identical articles were being produced on a small scale in several different plants. In such instances the advantages of mass production were lost and production was smaller and

[1] The private concern is Brunton & Co.

more costly than it should have been. In other cases, the Mission observed that, because of the lack of essential machinery, it was necessary to move goods to a second plant for partial processing and later to return such goods to the original plant for finishing. Obviously a relocation of machinery would reduce the time of manufacture and the cost of handling. If it were possible to concentrate production in a few rather than in many plants, and if the machinery essential to any single productive process could be located within the plant primarily devoted to such production, the existing industrial equipment in India could be utilized more efficiently and effectively than at present.

Machine Tools.

Another factor affecting India's production of war materials is the acute shortage of machine tools. Before the war India's capacity for the manufacture of such tools was very small, being limited to simple lathes and drilling and shaping machines. A more efficient utilization of existing facilities, particularly in the railway workshops, has enabled India in recent months to increase the volume and types of machine tools produced there. The range of production has been extended to include presses, cold saws, thread millers, tool grinders, slotters, planes, furnaces, blowers, blasting equipment, and rolling mills. Despite this expansion in production, the machine-tool industry in India is not large and is unable to meet minimum requirements. Domestic production, therefore, must be supplemented by imports from the United Kingdom and the United States.

All requests from India for machine tools are routed through the Machine Tool Control in London. This Control attempts to meet India's requests from its own resources or by diverting to India some of the Lend-Lease allotments to the United Kingdom. Requests that cannot be filled in this way are handled by the Indian Purchasing Mission in Washington which places direct requisitions upon the Lend-Lease Administration. The dependence of India upon the United States for machine tools is indicated by the increase in the number of such tools being requisitioned by the Indian Purchasing Mission. Several recent requisitions have received the endorsement of the Mission.

The records of the Machine Tool Control for recent months show that, for the expansion of the war effort, India's current minimum requirements are approximately 9,000 machine tools per annum, of which about 4,000 are required by the Government and 5,000 by other war and essential industries. The Government of India proposes to meet these requirements as follows:—

	1942.	1943.
Tools to be manufactured in India ...	3,360	4,600
Tools to be requisitioned and reconditioned in India.	2,310	—
Tools to be imported.	3,330	4,400
Total.	9,000	9,000

These estimates, however, do not include 3,171 machine tools already on order for sanctioned projects for the production of munitions, 453 machine tools for the manufacture of small tools, forged tools, and engineering stores, and 111 machine tools for the expansion of production in existing plants. Moreover, they do not include any allowance for ordinary replacements of machine tools which, based on an expected life of 20 years, would amount to about 4,000 tools a year. Imports of required machine tools into India

should amount to about 3,330 in 1942 and to 4,400 in 1943; in addition, there would be the 3,735 machine tools on order for specific projects and the 4,000 machine tools that are required for ordinary replacements. With the completion of the program of industrial expansion, it may be assumed that India will be able to provide the machine tools necessary for ordinary replacements and that only the more intricate type of tools will have to be imported. But, in order that the program of expansion may be completed, it is essential that India's requirements for machine tools (as indicated above) should be met.

The Government of India established a strict machine-tool control under a Deputy Director-General early in 1941. The Director has power to supervise completely the production and distribution in India of all machine tools. He is empowered to license imports and exports He can prevent the diversion of essential machines to non-essential purposes and can requisition machines required by factories engaged in the production of munitions. In addition, he has the power to determine the type and quantity of machine tools to be manufactured in the country, and the factories at which such manufacture is to be undertaken. The Government of India is thus able to control completely the manufacture, distribution, and use of machine tools within its own borders.

Small Tools.

Despite the progress made in the production of small tools, India must continue to import substantial quantities of saws, files, precision measuring tools, and cemented carbide cutting tools. The capacity in India to produce high-speed, carbon-steel twist drills, milling cutters, and reamers is inadequate to fill the essential demand. As a result one plant, with an annual capacity of 400,000 drills, has been taken over by the Government, and plans have been completed to quadruple its capacity. Orders for necessary equipment have been placed with the United Kingdom and with local manufacturers The capacity in India to produce high-speed, carbon-steel taps, dies, and thread-forming tools is also inadequate. A project is therefore being considered for the erection of a factory to manufacture these tools, with an estimated annual output of 300,000. The equipment will be ordered in part from the United Kingdom and in part from local manufacturers. The Government of India indicated that it would look to the United States for the supply of tool steel necessary to maintain the production of these plants; this would amount annually to about 120 tons.

The Agrico works of the Tata Iron and Steel Company produces pickaxes, felling axes, and other hand tools. It has an annual capacity of approximately 2,000,000 such tools and a project sponsored by the Government of India is under way to double that capacity. Orders for three bliss Pick-Eye Presses and one Felling Axe Eye Punching Press have been placed on the Lend-Lease Administration by the Indian Purchasing Mission. Other essential equipment will be obtained in India.

The Government of India has instituted a rigid control over the importations, exportation, and distribution within India of all types of small tools. All tools ordered for India, therefore, whether by the Government or by private concerns, are required for the production of munitions or other essential war materials, and will be devoted exclusively to such purposes.

Other Steel Manufactures.

The production of machinery and machine tools in India is retarded by the absence of equipment for the manufacture of certain essential parts such as roller and ball bearings. A plant for their manufacture would facilitate the production of various types of machinery. Moreover, a plant

or plants completely equipped for die casting would expedite the production of shells and components of munitions as well as of other war materials. A factory for the production of pipes and tubing would effect a saving in both time and shipping space; it would also expedite essential construction and the repair of locomotives. The existence of such a plant would be a particularly important factor in any project for the construction of a pipe line for the transportation and distribution of gasoline in India. There are a number of wire drawing plants in India, but there is no plant for the manufacture of wire screen. This product would have many war uses, particularly in hospitals and barracks, and would doubtless find a large civilian market in the post-war period.

With the proper equipment, the manufacture of scientific instruments could be undertaken in India on a much wider scale than at present. These instruments would have a number of immediate war uses and are essential in any program for the expansion of industrial production. Small electric motors not exceeding 5 horse power would also be useful instruments in such a program. By attaching these motors to individual machines, the current use of shaft and belt drive could be reduced with a corresponding saving in the consumption of electric energy. Small motors could be produced in India which affords most of the essential raw materials, with the possible exception of copper.

Assembly of Motor Vehicles.

The assembly of motor vehicles is a substantial industry in India and is now operating almost exclusively under contracts with the Government. The assembly plants are owned and operated by two United states companies, General Motors and Ford. Their maximum annual-capacity is approximately 96,000 units, of which General Motors can assemble 60,000 and Ford, 36,000. The assembly plant of General Motors is located in Bombay. The Ford Company has three plants; the plant in Bombay has an annual capacity of approximately 21,000 units, the one in Culcutta 9,000 units and the third in Madras, 6,000 units. All four plants are well-managed and efficiently operated.

The current annual requirements of the Government of India are approximately 84,000 vehicles. Of this number, it is expected that General Motors will assemble 50,000 units and Ford, 34.000. The Mission was informed by Government officials that the capacity for the construction of bodies within India is adequate to meet the requirements of the Government. Inasmuch as the capacity for the assembly of chassis is also adequate, there appears to be no need for expansion in this field.

In order to avoid delays and to permit the most efficient utilization of existing plant capacity, however, the companies concerned should insofar as possible, provide for the regular shipments of parts from Canada to India. Because such shipments are made in CKD pack, efforts should be made to insure the inclusion of all essential parts in each shipment. The possibility of delay in the assembly of many vehicles would be further reduced if each CKD pack were limited to no more than 24 units. Moreover, because vital parts have occasionally been omitted in packing, the companies may wish to consider the advisability of stocking in India those spare parts which experience has shown are most likely to be overlooked.

Cement.

India has 22 plants for the manufacture of cement; these are owned and operated by 7 companies, and have annual capacities of about 2,600,000 tons.[1] One company owns 12 of the 22 plants and accounts for about 60 percent of their total productive capacity. The raw materials for the manufacture of cement are all available in India.

[1] Two of the 22 plants have not yet been completed; combined capacities of the two uncompleted plants will amount to 75,000 tons annually.

Approximately 90 per cent. of the current production of cement in India is contracted for by the Government, as compared with about 50 per cent. in 1941 and 15 per cent. in 1940. Reserve stocks are being depleted, inasmuch as current production is not keeping pace with the demand. Moreover, it appears likely that the requirements of the Government will increase rather than diminish. Indeed, the industry expressed concern over its ability to meet possible future demands of the Government, and has stated its desire to expand plant facilities in order that it might be better prepared to meet future contingencies. The Mission called the attention of the Government of India to these representations and indicated its willingness to assist in obtaining the equipment required by the industry, provided the Government approved the orders submitted to it.

Radios.

Although radios are serviced in India, no sets are assembled or constructed there. The Mission, however, examined the possibility of producting radio sets in India. After conferences with the trade, with officials of the Government of India, and with technicians in the Army, the Mission concluded that special types of radios should continue to be imported. One general-purpose radio set is required in considerable numbers (approximately 5,000 annually) for use in armored cars, airplanes, and in the field operations of the Army. These, the Mission believed, could be manufactured in part, and assembled, in India. It was the concensus that the purely mechanical parts of the set could be produced locally, but that the electrical components should be imported, although the electrical cables required could be obtained in India. Such an arrangement would substantially reduce the weight of materials to be imported and thus conserve shipping space. It would also provide a centrally located supply base and repair depot for Army divisions operating in South Africa, Egypt, Iraq, Iran and China. The Government of India, at the suggestion of the Mission, appointed a full time officer to study the project and to formulate definite recommendations concerning the manufacture of parts and the assembly of this all purpose radio set in India.

Recommendations.

1. The Mission recommends that a serious effort be made to obtain the maximum utilization of existing plant and equipment through the application of mass-production, assembly-line methods. It suggests that the production of one or, at most, of a few articles be concentrated within a single plant and that, when necessary to achieve this objective, machinery be transferred from one plant to another. It suggests, also, that production might be increased by improving the arrangement of machinery within individual plants and by making adequate provision for necessary light and air.
2. At the request of the Government of India the Mission agreed to attempt to obtain the services of several production engineers who might advise that Government concerning the methods most likely to result in the achievement of the objectives outlined above.
3. The Mission approved the plans of the Government of India for the expansion of the production of machine tools. It agreed to attempt to obtain drawings and blueprints of machine tools in the United States that might serve to assist in that production program. It endorsed a number of orders for machine tools placed on the Lend-Lease Administration through the Machine Tool Control in London and the Indian Purchasing Mission in Washington. And it urges that serious consideration be given to the erection of a factory for the exclusive production of machine tools in order to curtail import requirements as currently estimated.

4. The Mission endorsed the program of the Government of India for the expansion of the production of high-speed, carbon-steel tools and also endorsed the orders for materials and equipment placed on the Lend-Lease Administration by that Government.

5. The Mission recommends that serious consideration be given to the establishment of plants for the manufacture in India of the following articles, all of which are important in the war effort as a part of a program for industrial expansion. Roller and ball bearings, pipes and tubing, die castings, wire screen, scientific instruments, and small electric motors. Should the Government of India give favorable consideration to these projects, the Mission is ready to assist in securing the equipment and materials essential to their implementation.

6. The Mission recommends the manufacture of parts and the assembly of an all-purpose radio set in India, and it is ready to assist the Government of India, in securing from the United States the materials and equipment that would be required for this purpose.

NONFERROUS METALS.

The Government of India maintains a complete control over both imports and exports of all nonferrous metals. Exports are permitted to go only to the United Nations and only for essential purposes. The distribution within India of aluminum, copper, lead, nickel, tin, and zinc is under the control of the Government.

Bauxite and Aluminum.

Bauxite.—There are substantial deposits of bauxite in India. Reserves are estimated at about 250,000,000 tons and are located principally in Bihar, the Central Provinces, and Bombay. There are also small deposits in Madras. The better grades of bauxite have an average alumina content of 55 per cent. One of the deposits in the Province of Bombay (Tungar Hill, only 80 miles from the city of Bombay), is estimated to contain 750,000 tons of bauxite with an average alumina content of 49 per cent. Thus far there has been little mining of bauxite in India, and no aluminum has been made in India from Indian bauxite. Exports have been small and sporadic, being largely trial shipments. Because of the great demand for aluminum arising out of the war, plans have been made to develop the Indian deposits. Two companies in India have undertaken projects for the manufacture of aluminum Indian bauxite.

Aluminum.—The Aluminum Production Company of India, Ltd., is establishing a smelter at Alwaye in Travancore State which, it is anticipated, will be in operation by August or September 1942. This smelter will have an annual capacity of 2,825 long tons of ingots. The plant, however, is so designed that its capacity, exclusive of requirements for power, can be increased to 5,850 long tons by the installation of very little additional equipment, chiefly equipment for melting pots and the rectifier plant.

Sometime ago the Aluminium Production Company entered into a contract with the Government of Travancore State for its electric power. Travancore State, however, was unable to secure the hydroelectric equipment necessary to expand its production and now states that it will be unable to supply sufficient power to operate the smelter at even its initial capacity. Unless additional power can be obtained, the probable output of the smelter will be 1,750 long tons, rather than 2,825 long tons. The office of the Electrical Commissioner has suggested that the power required can be provided by connecting the Travancore State system with the hydroelectric system of the Govern-

ment of Madras. This could be done by erecting a transmission line between the Pallivasal power station and Udmalpet, a switching station of the transmission system of the Madras Government—a distance of above 45 miles. This plan would provide sufficient power to enable the smelter to operate at least at its initial capacity.

The Aluminium Production Company is planning to establish a plant for the production of alumina from Indian bauxite which it expects to obtain from nearby deposits in Madras. This plant, however, may not materialize for some time, although the Government of India is anxious that it be established as soon as possible inasmuch as the company is now depending upon alumina imported from Canada. The company has conducted surveys of many bauxite deposits in Southern India and has obtained options on some of them.

The Aluminium Production Company is a Canadian-British concern into which it is intended to introduce substantial Indian capital and representation after the plant is in operation. At present Aluminium, Ltd. of Canada and the British Aluminium Company each have a 50-per cent interest in the Indian organization, but the control is in the hands of the Canadian company. The Indian concern has a controlling interest in another Indian Company, the Jeewanlal Ltd., which is by far the largest producer of aluminum utensils and other holloware in India.

A second company, the Aluminium Corporation of India, Ltd., was organized in 1938 for the production of aluminum from Indian bauxite. It is the intention of the organizers to establish a complete plant, including the production of alumina, aluminum, and sheet at Anupnagar, near Asansol, in Bengal. It is planned to operate the plant with steam-generated power. Orders were placed for the entire plant with Skoda at most favourable prices. At the outbreak of the war about two-thirds of the necessary equipment had been delivered; undelivered equipment, however, included the three main D. C. generators to supply power for the smelter. Delays in obtaining the essential plant have been experienced, in part because of numerous changes of ownership. Orders were finally placed in March 1941, and shipment from the United Kingdom is scheduled for July 1942. Construction of the plant is proceeding and the production of alumina may be possible by the middle of 1942. It is doubtful, however that ingots will be produced before the end of 1942, even though the generating plant should arrive as now scheduled. The annual capacity of the smelter at Anupnagar is about 3,000 long tons of ingots.

Various attempts have been made to bring about a merger of the two producing companies, but thus for these efforts have been unsuccessful, largely because of disputes between the Canadian-British and Indian interests over the question of control. Inasmuch as one company will soon have a smelter but will be forced to import alumina, and the other will have a plant for the production of alumina but no smelter, it seems obvious that a merger, or at least a working agreement, could be effected that would be mutually advantageous. It would also appear that the Government of India might use its influence to bring about such an agreement in order to save the shipping space that would be required to import alumina from Canada.

Chromite.

There are deposits of chromite, the oxide of chromium and iron, in Bihar, the Eastern States, Bombay, and Mysore, but 95 per cent. of the chromite produced in India comes from north-eastern Baluchistan. From the mines the ore is transported by narrow-gauge railway 46 miles to Khanai, and from there by broad-gauge railway 570 miles to Karachi. There is a large dump at Khanai and there are storage facilities for 20,000 tons of ore at Karachi. The industry in Baluchistan is controlled by the Baluchistan Chrome Company with headquarters in London.

The production of chromite in India and exports of the ore from that country in recent years are shown in table 10.

TABLE 10.

CHROMITE: PRODUCTION IN, AND EXPORTS FROM INDIA, 1937-40.

(In long tons).

Year.	Production.	Exports.
1937	62,307	50,367
1938	44,149	24,452
1939	49,136	37,826
1940	55,511	42,704

Source: Department of Supply, Government of India.

The statistics in table 10 suggests that there is an annual consumption of about 12,000 tons of chromite in India. This material is devoted principally to the preparation of furnace refractories; small amounts are also used in the manufacture of heavy chemicals. There are adequate quantities of ore for the production in India of various chrome alloys, such as ferrochrome and chrome steels.

Copper.

Although it is apparent from old workings that substantial amounts of copper were once mined in India, commercial operations are now conducted in only two places. The more important of these locations is the Singhbhum copper belt in Bihar, where reserves of ore are estimated to be approximately 850,000 short tons yielding 2.88 percent copper; there is also a very small production of copper in Mysore. In recent years the annual output of refined copper has been about 6,600 tons which is approximately the capacity of the only copper smelter in India. This smelter is located at Maubhander, in the Singhbhum district of Bihar.

Copper ore from the Singhbhum district is nickeliferous, and the refined metal contains as much as one half percent nickel. The quality of Indian copper is adequate for most alloying purposes, but its value as a conductor of electricity is nullified by its nickel content. There is little likelihood in the near future of substantially increasing the production of copper in India. That country, therefore, will be forced to depend on imports of blister copper from Rhodesia for its requirements of ordinary copper, and on the United States or Canada for electrolytic copper. The only alternative would be the installation of an electrolytic smelter for the processing of blister copper from Rhodesia.

Lead and Zinc.

Lead and zinc ores are known to occur in Rajputana and Kashmir, but there is no production of lead and zinc in India. The requirements of that country, therefore, must be met by imports. Since the conquest of Burma, stocks of lead and in zinc India have been rapidly diminishing. In a few months there is likely to be a serious shortage of both these metals, and imports from the United States may have to be provided. Imports of lead and zinc into India in recent years are shown in table 11.

TABLE 11.

LEAD AND ZINC. IMPORTS INTO INDIA, 1938-40.
(In long tons).

Year.	Lead.	Zinc.
1938	7,500	22,000
1939	9,500	24,000
1940	15,000	26,500

Source : Department of Supply, Government of India.

The most promising deposits of lead-zinc ore in India are the old mines Zawar in Udaipur State, Rajputana. The Government of India is planning to develop these deposits which have not been worked for about 100 years because, at that time, mining operations were discontinued when the water level was reached. The extent of the deposits is not known, but samples indicate an ore of excellent quality, averaging 28 percent zinc and 20 percent lead, with 40 ounces of silver to the ton. Moreover, because of the character of the rock, little timbering will be required.

Before operations on these deposits can be resumed, it will be necessary to determine the extent of the ore body and to pump out and otherwise rehabilitate the mines. It is estimated that about 12 months will be required to put the mines in working order. Moreover, equipment for a flotation mill and for lead and zinc smelters will have to be imported and installed. In addition, considerable technical assistance will be required in the installation and operation of the mill and smelters, and in the manufacture of retorts for the zinc smelter. Because of the richness of the ore, however, it would appear desirable to develop these properties, provided the proposed investigation establishes the existence of adequate reserves.

Manganese Ore.

India customarily accounts for about 30 percent of the world's output of manganese ore. Production in India amounted to 1,051,000 tons in 1937 and to 869,000 tons in 1940, most of which was exported. Formerly, exports went to the United Kingdom, Japan, and France; now they are shipped almost entirely to the United Kingdom and the United States. The iron and steel industry in India consumes about 60,000 tons annually. The chief mining areas are the Balaghat, Bhandara, and Nagpur districts of the Central Provinces; others include Sandur (one of the Madras States), Keonjhar and Bonai among the Eastern States, Singhbhum in Bihar, the North Kanara and Panch Mahals districts of Bombay, and Mysore State. Prior to the closing of the Bay of Bengal, manganese was exported chiefly from Vizagapatam which is about 400 miles, via the Bengal Nagpur Railway, from the producting centers in the Central Provinces. Currently, the principal port of export is Bombay. Production and exports of manganese ore, and the production of ferro-manganese, in India, for the years 1937-40, are shown in table 12.

TABLE 12.

PRODUCTION AND EXPORTS OF MANGANESE ORE, AND PRODUCTION OF FERROMANGANESE, IN INDIA, 1937-40.
(In tons).

Year.	Manganese Ore.		Ferro manganese.
	Production.	Exports.	Production.
1937	1,051,594	1,151,884	8,041
1938	992,795	648,740	18,385
1939	844,663	781,182	1,618
1940	868,918	787,785	18,199

Source : Department of Supply, Government of India.

Tin.

There are no known deposits of tin in India that may be operated profitably, even under present conditions. India, therefore, must continue to import tin to meet its requirements which, in the past, amounted to approximately 3,000 tons a year. By the elimination of most civilian uses, and the curtailment of military uses, it is possible that essential requirements may be reduced below past consumption.

Titanium.

Titanium occurs in India in the form of a double oxide of iron and titanium, known as ilmenite. The oxide is used principally in the pigment industry; small amounts are also consumed in the manufacture of steel. In recent years most of the world's supply of ilmenite has come from Travancore State in southern India; there it occurs in the sea sand which also contains monazite and zircon sands. The ilmenite sands in Travancore vary somewhat in metallic content but cover a large area which extends some distance beyond the actual beach and for several miles along the coast. At the water line the sands are renewed each year by wave action. Most of the ilmenite produced in India is exported, and most of the exports are shipped to the United States. The production of ilmenite in India and its exports from that country in recent years are shown in table 13.

TABLE 13.

ILMENITE: PRODUCTION IN AND EXPORTS FROM, INDIA. 1937-40.

(In long tons).

Year.	Production.	Exports.
1937	181,047	204,653
1938	252,220	225,592
1939	237,835	236,476
1940	263,152	200,490

Source: Department of Supply, Government of India.

Recommendations.

1. The Mission recommends that a survey of the route for the proposed transmission lines between the Pallivasal power station and Udmalpet be undertaken forthwith, and that every effort be made to effect the early erection of the line, in order that adequate power may be obtained to operate at capacity the smelter of the Aluminium Production Company.

2. It recommends that the capacity of the smelter at Alwaye be expanded to 5,850 tons of ingots as promptly as possible.

3. It further recommends that a plant for the production of alumina from bauxite be erected at Alwaye with a capacity adequate to provide for the expanded smelter.

4. The Mission is ready to assist the Government of India in obtaining the materials necessary for the erection of the proposed transmission line and for the expansion of the capacity of the plant now under construction at Alwaye by the Aluminium Production Company.

5. The Mission recommends that every effort be made to expedite the completion of the plant of the Aluminium Corporation of India, Ltd., in Bengal.

6. It is possible that the two plants for the production of aluminium in India might be operated more efficiently under a single manage-

ment. The Mission suggests that this possibility might be the subject of an investigation by the Government of India.

7. The Mission recommends that India's requirements for copper continue to be supplied by Rhodesia, Canada, and the United States, inasmuch as there is a shortage of power in India and little saving in shipping would be effected even if the machinery necessary for an electrolytic smelter were made available.

8. The Mission recommends an immediate survey of the old mines of Zawar in Udaipur State, Rajputana.

9. Should the reserves prove adequate, the Mission recommends that the mines be rehabilitated and that the necessary equipment for the mining and smelting of lead and zinc be acquired and installed.

10. The Mission is ready to assist the Government of India in obtaining the equipment and material essential for the execution of this project.

OTHER STRATEGIC PRODUCTS

Mica.

India accounts for about three-fourths of the world's supply of sheet and block mica. Deposits of mica are widely distributed throughout the country, but it is estimated that nearly 80 percent of the total is obtained from Bihar and most of the remainder from the Nellore district of Madras. Deposits of mica are also found in Rajputana, Mysore, Gwalior, and Travancore. Phlogopite is found in Travancore; the other deposits are muscovite. Workers in mica, chiefly women, have a special skill in dressing and splitting the mineral, and this is an important factor in the preeminence of the Indian industry. Indeed, block mica from other countries is often imported into India and then exported in the form of fine splittings no more than one one-thousandth of an inch in thickness. No additional capital or equipment is required to increase production which responds directly to the stimulus of price. Production in 1942 is estimated at 22,000,000 pounds, and officials of the Government of India state that this could be increased to 25,000,000 pounds in 1943 if orders were placed sufficiently far in advance to permit the necessary scheduling of operations. Exports of mica from India go chiefly to the United States and the United Kingdom, and these are shown for recent years in table 14.

TABLE 14.

MICA : EXORTS FOM INDIA, 1937-40
(In thousands of pounds)

Year	Block and splittings	Scrap
1937	18,554	12,352
1938	8,902	9,376
1939	10,799	7,251
1940	10,990	4,585

Source :—Department of Supply, Government of India

Rubber.

In recent years India has produced annually about 16,000 tons of crude rubber.[1] It is anticipated that by 1946 the annual production of crude rubber will be increased to 18,000 tons and that the output of reclaimed rubber will be established to yield 5,000 tons, thus giving India a total annual production

[1] This does not include the prodution of crude rubber in Ceylon, the annual output of which is reported to be approximately 100,000 tons.

of 23,000 tons. Machinery for the manufacture of reclaimed rubber, however, must be imported and installed, inasmuch as there is now no such equipment in India. Crude rubber is produced in southern India in the Malabar district of Madras and in north-eastern India in Assam.

The current Indian requirements for rubber are estimated by officials of the Government to be 32,610 tons. If India is to be self-sufficient in rubber products, it must secure 9,610 tons of crude rubber or its equivalent from sources outside the country. It has been estimated that as much as 25 percent of total requirements may consist of reclaimed rubber,[1] the deficiency in India, therefore, could be met by imports of crude rubber from Ceylon and of reclaimed rubber from the United States, as follows :—

	Tons
Crude rubber from Ceylon	6,460
Reclaimed rubber from the United States	3,150
Total	9,610

There are two plants for the manufacture of rubber tires in India ; one is owned and operated by the Dunlop Company of the United Kingdom, and the other, by the Firestone Company of the United States. In 1941 the capacity of the Dunlop plant was expanded appreciably, and orders have been placed for additional equipment for the Firestone plant. It is anticipated that this equipment will be installed and in operation by November 1942. At that time these two plants will have approximately equal capacities for the manufacture of tires and other rubber goods. The present capacity of plants for the production of rubber goods in India, the expanded capacity of these plants with the installation of machinery now on order, and the further expansion proposed by the Government of India are shown in table 15.

TABLE 15.

RUBBER : CURRENT AND PROPOSED PLANT CAPACITIES[2] IN INDIA

(In long tons)

Product	Present plant	Expanded Plant[3]	Proposed expansion
Tires	8,200	14,500	23,500
General rubber goods[4]	1,200	2,500	3,400
Bicycle tires	1,800	1,500	1,500
Ground sheet and proofed fabrics	2,000	1,250	1,250
Camelback ...	—	500	1,000
Cable	360	700	700
Respirators	360	560	560
Carriage tires	400	400	400
Footwear	8,657	800	800
Total	17,977	22,210	32,610

[1] 25 percent of total requirements (32,610 tons) is 8 150 tons, from which must be deducted the 5,000 tons of reclaimed rubber that it is anticipated will be produced in India in 1943.

[2] In terms of customary dry rubber content.

[3] Equipment already shipped or on order.

[4] Hose, sheetings, belting, and miscellaneous rubber goods.

Source : Department of Supply, Government of India.

Imports of rubber and rubber goods, principally tires, have entered India chiefly from Canada and the United States. Small quantities have been supplied by the United Kingdom. The estimated imports into India of various rubber goods for the 12 months ending June 30, 1943, together with the sources of such imports, are listed below in terms of rubber content:

	Long tons
From Canada:	
Tires	7,560
From the United State:	
Tires	2,800
General rubber goods	100
From the United Kingdom:	
Aero tires and original equipment on vehicles	300
General rubber goods	300
Total	11,060

According to the estimates it would apear that imports in the current fiscal year will be approximately equal to the deficiency in rubber as calculated by Government officials.

The Government of India exercises a strict control over rubber. It regulates by license both exports and imports; it allocates the supply and controls the purchases and sales of raw rubber. Stocks in the hands of estates, dealers, and factories are required to be reported monthly. All sales or transfers of rubber to manufacturers are prohibited except by permit, and consequently the manufacture of rubber for anything but authorized requirements is prevented. Since June 15, 1942, automobile tires have been strictly rationed. The purchase of new tires or tubes has been restricted to operators of vehicles which are essential for the maintenance of war production or for the health or safety of the community. Permits are required for the retreading of tires.

Shellac

India is the world's largest producer of lac, a resinous substance secreted by a scale insect living on the twigs of trees. Production in India is centered in the northern part of the country, and ranges from 40,000 to 50,000 tons of raw lac a year, most of which is exported. Cultivation is distributed extensively in small holdings. By far the principal market is the United States where it is used chiefly in the production of varnishes and lacquers. Should India develop a substantial industry for the manufacture of paint, it is possible that increased quantities of lac would be used locally. An increase in the quantity of lac gathered or in its production; however, does not appear necessary. The Chief problem is that of securing adequate transportation to the United States.

Recommendations.

1. While in India, the Mission recommended that the United States and the United Kingdom purchase jointly their requirements of mica. It is gratified to note that this recommendation was favourably received and that a Joint Purchasing Mission has been established.
2. The Mission recommends that the orders of the United States and the United Kingdom for mica be placed as far in advance as

possible, in order that the industry may adequately schedule its production program and provide for the continuous employment of the workers.

3. The Mission believes that considerable saving in shipping could be effected by providing for the self-sufficiency of India in the production of most rubber products, particularly tires. Such a development would also reduce the hazard of shipping crude material to the United States or Canada and of reshipping the finished product to India. Moreover, the armed forces in India could probably be supplied more effectively by a local industry than by imports because of the frequent delay in the movement of ships.
4. For these reasons, the Mission recommends that the Combined Raw Materials Board allocate to India the amount of crude and reclaimed rubber necessary to make that country self-sufficient in the production of rubber products.
5. If the Board acts favorably upon this recommendation, the Mission recommends that the necessary equipment and material be acquired for the expansion of plant capacities.
6. The Mission also recommends that the necessary equipment and materials be acquired for a plant to produce annually 5,000 tons of reclaimed rubber.
7. The Mission further recommends the acquisition of machinery and materials necessary for the retreading or recapping of tires, inasmuch as a considerable saving in rubber would be effected thereby.
8. The Mission is ready to assist the Government of India in securing the equipment and materials necessary to implement these recommendations.

CHEMICALS AND DRUGS

Chemicals.

Most of India's requirements for fine and heavy chemicals are met by imports, although in 1938 there were 30 chemical factories in India with about 4,500 employees.[1] That country's dependence on imports for chemicals is indicated by the value of the different types received from abroad in 1939, as shown below :

Types	Value in rupees
Dyes and tanning materials	34,725,889
Industrial chemicals	34,308,188
Drugs and medicines	22,865,081
Fertilizers	12,048,971
Paints and painter's materials	8,805,556
Miscellaneous[2]	2,353,930
Total[3]	115,107,615

The chemical industry in India, however, is expanding. Notable increases have occurred recently in the production of sulphuric and nitric acids and of aluminium sulphate; there has also been some increase in the production of hydrochloric acid, sodium sulphate, and magnesium sulphate.

In general, the importation of chemicals into India is due to the absence of necessary equipment and technical personnel. For most basic chemicals the essential raw materials are available in India. Various projects for the pro-

[1] 15 of the 30 factories are located in Bengal.
[2] Includes printer's ink, gelatin glue, perfumed spirit and denatured spirit.
[3] Source: Compiled from official statistics of Government of India.

duction of chemicals are set forth in the following memorandum submitted to the Mission by the Government of India:

"This statement shows India's position in regard to 24 chemicals which are important to the war effort, and for the increased production of which, in India, American assistance might be possible. In the basic alkali group the most important shortage is that of caustic soda. If India is to be made self-sufficient, manufacture to the extent of 20,000 tons per annum will have to be established. If this step were taken, and the electrolytic process used, chlorine and bleaching powder which are also at present in very short supply, could be made in sufficient quantities to meet all Indian requirements. At present indigenous production of caustic soda amounts to about 6,000 tons. New plant is under erection which is expected to produce a further 8,700 tons by the summer of 1942. A further capacity of 20,000 tons is needed. The establishment of such a plant would also enbale bleaching powder and chlorine deficiencies to be met.

"There is a shortage of what are generally known as coaltar chemicals with the exception of benzene. Production could be increased if the iron and steel industry were expanded and new coke ovens set up. Benzene is at present being used mainly as a petrol substitute. It could be utilized as one of the primary chemicals for a dyestuffs industry but considerable plant and technical knowledge would have to be obtained to produce the vast range of products necessary. Furthermore, other basic dyestuffs chemicals such as toluene and naphthalene are at present in short supply on account of heavy defence demands. Phenol is also required for the manufacture of plastics, as are formaldehyde and urea. Formaldehyde manufacture is being established on a small scale in Mysore and the production of urea is very little beyond the experimental stage. Both these chemicals as well as phenol would have to be imported in order to establish a plastics industry to manufacture bakelite and beetleware.

"*Chemicals required by the Ordnance factories for ammunition production.*— These are acetone nitric and sulphuric acids, ethyl alcohol, ammonia and ammonium sulphate, lime, toluene, dimethylaniline and glycerine. Indigenous production of sulphuric acid, while ample to meet ordnance factory requirements, is not sufficient to meet all the needs of Indian industry. For this purpose an additional plant to expand production by about 10,000 tons will be required The position is satisfactory in the case of other chemicals required for ammunition production, except toluene and dimethylaniline, and possibly ammonia. The toluene deficiency is about 1,300 tons. Increased production, as stated above, under coal-tar chemicals depends upon expansion of the iron and steel industry and the setting up of new coke ovens. Dimethylaniline requires methyl alcohol as one of the primary materials, and production of this alcohol is at present limited to recovery from the wood distillation plants of the Mysore Iron and Steel Co. There is a project under consideration in connection with the production of antigas ointment for the setting up of acetic acid production by wood distillation, and methyl alcohol would be obtained as a by product. Advice and plant may be required for production of acetic acid from alcohol or molasses.

"Other ammunition requirements are the carbonates, nitrates and peroxides of barium and strontium and potassium chlorate and perchlorate for pyrotechnics; reduced hammerscale and alumin-

ium powder for incendiary bombs; also sodium azide and mercury for detonators. Most of these chemicals are required in comparatively small quantities and production is being established wherever possible. In other cases imports should not present difficulty as the total quantities involved will only amount to a few tons.

"Large volcanic deposits of sulphur rock have been found in Baluchistan and the Government of India has arranged to excavate and sell crude sulphur for direct use in 'Chamber' sulphuric acid plants. It was originally intended to refine the sulphur rock, but difficulties have been experienced and it has not been possible to place refined sulphur on the market. Technical advice and assistance might enable a useful contribution to be made towards strengthening India's supply position in essential chemicals by the evolution of a practicable refining process".

Plans are now going forward for the acquisition of a plant for the production of refined sulphur from the sulphur rock of Baluchistan which contains about 50 percent of siliceus impurities. A project is also under consideration for the establishment in India of a plant for the manufacture of coal-tar derivatives which are the essential bases in the manufacture of explosives and chemical products. The by products of such a plant would include coke, gas, ammonium sulphate, light oils, and tar. The light oils are used in the production of T.N.T. and the ammonium sulphate in the manufacture of fertilizer. Tar has many uses; it is especially important in the construction of roads. Coke and gas are valuable by products that could be used by iron and steel mills.

The Government of India already has on order equipment for a plant to produce ammonia. And it is considering the possibility of securing the necessary equipment for plants to manufacture sodium sulphide and antiverm, a chemical to counteract the effect of poison gas. Although there are several factories for the production of paint in India, imports are substantial. Moreover, the requirements for paint in India are likely to increase because of the enlarged war demand. A considerable saving in shipping could be effected if India were to become self-sufficient in the manufacture of this product. Nearly all of the ncessary raw materials for the production of paint are available in India.

Drugs.

India is responsible for the supply of medical stores of all kinds to the armed forces in the Far Eastern command, and for the supply of those medical stores that it produces, to the armed forces in the Middle Eastern command. Considerable difficulty has been experienced in obtaining medical supplies from the United Kingdom; and consequently the production of drugs in India has been expanded. Whereas before the war only 25 percent of the medical stores for the Army were manufactured in India, 60 percent of the army's requirements are now produced there. There are many items, however, that are not manufactured in India, and the quantity of drugs produced there is not always adequate to meet both the military and civilian demands.

The production of drugs in India is chiefly in Government depots. There is a private industry but it is of recent origin and small in capacity. The policy of the Government has been to continue the manufacture of drugs in its own depots until private industry is able to supply the demand. In pursuance of this policy, the Government is considering the installation of an additional plant for the manufacture of drugs in India, in order that that country might become practically self-sufficient in these important products. The installation and the operation of such a plant would doubtless require the services of experts and technicians who would have to be obtained from either the United Kingdom or the United

States. Such a plant, however, would eliminate the possibility of the loss of drugs at sea and would provide a central location for the supply of these essential articles in the Eastern and Middle Eastern areas. Most of the raw materials for the manufacture of drugs can be obtained in India.

In addition to the plant for the production of drugs, the Government of India wishes to obtain the equipment and materials necessary for the establishment of plants to manufacture coal-tar intermediates (for the production of synthetic drugs) surgical instruments, record syringes, and surgical gloves. The annual requirements of the Army in India are 600,000 syringes and 630,000 pairs of surgical gloves.

Recommendations.

1. The Mission recommends the aquisition of a plant for the refining of sulphur now being mined in Baluchistan.
2. It recommends the establishment of a plant for the manufacture of coal-tar derivatives.
3. It endorsed the projects of the Government of India to establish plants for the manufacture of sodium sulphide and antiverm.
4. It agreed to use its influence to obtain early deliveries on equipment already ordered for a plant to produce ammonia.
5. It suggests that consideration be given to the establishment of an additional factory for the production of paint, in order that India may become self-sufficient in this product and thereby effect a saving in shipping.
6. It recommends the establishment in India of an additional plant for the manufacture of drugs in order that India may be nearly self-sufficient in these important products.
7. The Mission recommends the acquisition of the necessary equipment and materials for the production of coal-tar intermediates, surgical instruments, record syringes, and surgical gloves.
8. The Mission agrees to assist the Government of India in obtaining the machinery and materials necessary for the erection of these various chemical and drug plants.

TEXTILES

Jute and jute manufactures.

India is the sole source of the world's supply of jute, and that product, next to cotton, is India's largest agricultural export. Production is centered in Bengal which accounts for about 90 percent of the total; other producing areas are the provinces of Assam, Bihar, and Orissa. In recent years production has ranged from 5,500,000 bales (1931) to 13,000,000 (1940); the average annual production has been about 9,000,000 bales. [1]. Sowing begins each year toward the end of February and is completed by the end of May; the crop is harvested in the months of July through September. Approximately one-half of the total crop is exported as raw jute, and the remainder is manufactured into hassian or gunny cloth and bags in Indian mills. Most jute manufactures are also exported, inasmuch as India's requirements are not large. Before the war continental Europe was the principal market for Indian exports of raw jute and the United States was the principal market for jute manufactures, especially the cloth known in this country as burlap.

[1] Each bale weighs 400 pounds.

In the decade 1930-39 the jute mills of India suffered severely from over production. As a result the Government of Bengal, in 1938, promulgated an ordinance restricting output. Under the Bengal Jute Regulation Act the Government of Bengal has the authority to control the amount of jute sown in each season.

With the outbreak of the war an unusual demand was placed upon the jute mills, and the plantings of jute were increased. The crop in 1940 amounted to 13,100,000 bales which, together with the 2,300,000 bales left over from the previous season, created unusually large stocks for manufacture or export. The fall of France and the closing of continental European markets curtailed the exports of raw jute so that 7,900,000 bales remained in stock when the harvesting of the 1941 crop began. This crop was the first to be regulated in Bengal and the acreage sown was two-thirds of that in 1940. The yield in 1941 was about 5,400,000 bales, making a supply of 13,300,000. The probable demand for the fiscal year 1941-42 is estimated at about 8,500,000 bales, and the carry over before the 1942 crop, at 4,800,000. Sowings in the 1942 season will be so regulated as to satisfy all probable demands in the fiscal year 1942-43, but no margin above estimated requirements has been allowed because of the necessity for stimulating the production of rice, the supply of which has been curtailed by the fall of Burma.

Before the war, when jute mills in India were working 45 hours a week, they consumed annually about 6,750,000 bales.[2]. Shortly after the war began, the Government allowed an extension of working time beyond the normal maximum of 54 hours a week permitted by the Factory Act to 60 hours a week a single shift. On this basis the mills would consume about 7,200,000 bales annually.[1] The raw material position, therefore is satisfactory.

India has 110 jute mills, most of which are in or near Calcutta in the Province of Bengal. These mills have more than 1,300,000 spindles and 68,676 looms, and employ more than 250,000 persons. Operating on the basis of 60 hours a week, their annual production of cloth and bags exceeds 1,300,000 tons. India's war and essential civilian requirements for jute goods are estimated at about 46,000 tons; the remainder is available for export. The primary problem affecting jute and jute products, therefore, is not production but transportation which has been adversely affected by the closing of the Bay of Bengal to ships of the United Nations. Jute and jute products, exported from India, must first be transported across the country by rail to Bombay or one of the other west-coast ports, and shipments are being retarded because of this and other unusual burdens placed on the railroads.

Cotton and cotton manufactures.

India is the world's second largest producer of cotton, being exceeded by the United States. Annual production averages about 7,000,000 bales of 400 pounds each. The cultivation of cotton is widely distributed throughout India, but there are two principal producing regions. The south-central section of the country embracing Bombay, the Central Provinces, the State of Hyderabad, and Madras; and the northern section including the Punjab and the United Provinces. The average annual yield of cotton per acre is appreciably lower in India than in the United States, and very much lower than in Egypt. Customarily, about one-half of the cotton produced in India is used by local cotton textile mills

[1] As reported by officials of the Department of Supply, Government of India.

and the remainder is exported. Before the war the principal market was Japan. The closing of this market has created a surplus of raw cotton in India which is only partially offset by the enlarged demand of Indian Mills. These mills have increased their production to meet war demands and to compensate for the cessation of imports of cotton manufactures from Japan. Although India has a surplus of cotton available for export, it is short-staple cotton. India, therefore, must import annually about 42,000 bales each of East African and Egyptian raw cotton for the spinning of fine thread counts to be used in the manufacture of certain war supplies.

The manufacture of cotton textiles is undoubtedly the largest industry in India. There are about 390 mills in the country, with 10,000,000 spindles and 2,000,000 looms. The workers employed number about 450,000. The annual output of these mills is between 5 billion and 6 billion yards. The cotton spinning and weaving industry is centered in the Presidency of Bombay which accounts for approximately two-thirds of the total production. The two principal centers of production in the Province are the cities of Bombay and Ahmedabad. India's total production of 8 billion yards, which includes the annual output of the hand-loom industry of 2 billion yards, is sufficient to meet that country's military and civilian requirements. Indeed, the cotton textile industry has pledged 20 percent of its production to meet military requirements and would, if necessary increase this percentage.

Inasmuch as the capacity of the cotton textile mills is adequate to care for India's requirements, no major projects for new plants are necessary. A limited amount of additional equipment, however, is required to obtain the maximum potential capacity of existing mills. Most of this machinery will be obtained from the United Kingdom which supplied the initial installations. In order to obtain additional power and to have adequate facilities for emergencies, however, the Government of India has requested that the United States supply a few electric motors for use in the cotton textile industry.

Wool and wool manufactures.

The total wool clip of India is estimated at about 200,000 bales of 330 pounds each, or 66,000,000 pounds. Production is widely distributed throughout India, but the principal centers are the Punjab, the United Provinces, Sind, and Baluchistan. Before the war exports from India ranged from 40,000,000 to 50,000,000 pounds. The United Kingdom and the United States were the principal markets. In 1941-42 India imported 13,400,000 pounds of Australian and South African Wool and 10,600,000 pounds of Australian tops.

The production of wool in India is more than adequate for that country's manufacturing capacity for blankets, both machine and hand-woven. Most Indian wool, however, is not suitable for combing, although a few frontier types and the Tibetan wools, with a combined clip of about 5,000,000 pounds annually, can be combed for use in the coarse varieties of worsted and hosiery yarns. The quality of the finished article, however, is inferior, and the combing yield is 40 percent less than for Australian and South African wools. The combing of local wool, therefore, would greatly reduce the efficient use of combing equipment which, even when employed to capacity on imported wools, is only sufficient to meet about 40 percent of India's war requirements. The remainder must be imported chiefly from the United Kingdom or Australasia in the form of tops, finished woolen materials, knitted garments, or knittingyarn which is utilized by the cottage industries as well as the mills.

There are about 30 woolen and worsted mills in India. The woolen industry is small, with limited output. The industry has about 45,400 spindles with an adequate complement of looms, and is engaged in the production of heavy woolens, such as blankets, heavy coating materials, and serges to meet the military demand. The blankets are made entirely from Indian wool, and mill production, amounting to 2,500,000 annually, is supplemented by hand-woven and hand-spun blankets which are being produced at the annual rate of about 2,000,000. Annual requirements for use in India and for exports, however, amount to 5,000,000 blankets; thus there is an annual deficiency of about 500,000. The heavy coating materials and serges are customarily made from imported wool. The coating materials can be made from Indian wools, but the quality does not compare favorably with those made from imported wool. The worsted industry in India has about 33,700 spindles and an adequate number of looms, but these are quite insufficient to meet the demand for worsted materials and hosiery.

The entire output of the wool manufacturing industry has been taken over by the Government of India for the duration of the war. To increase India's manufacturing capacity for woolens and worsteds to meet war demands the Government has estimated that the following additional equipment would be required:

Spindles for woolens	...	70,000 with all necessary complementary equipment
Spindles for worsteds	..	50,000 with combing and other complementary equipment.
Looms	...	3,000.

To provide the necessary raw material for this additional plant, it is further estimated that 45,000,000 pounds of raw wool would be required annually. Most of this wool would have to be imported, but wool for the manufacture of blankets could be obtained locally, inasmuch as all, or nearly all, of the machinery required for this industrial expansion would come from the United Kingdom, the Government of India made no request for assistance from the American Technical Mission.

Silk and silk manufactures.

Raw silk is produced in southern India in Mysore State and Madras, and in northern India in the Provinces of Bengal, Bihar, Assam, and Kashmir. Annual production amounts to about 1,600,000 pounds, but of this quantity only about 350,000 pounds is filature-reeled, the remainder being hand-reeled not of standard quality. Only silk that is filature-reeled is suitable for the manufacture of parachutes. The total production of this type of silk is being purchased exclusively by the Government. India is not a large exporter of silk. Indeed, the country is a net importer of that commodity which is used in the production of special types of hand-woven textiles characteristic of India.

The annual value of the silk goods produced in India has been estimated to range from $20,000,000 to $25,000,000. There are three small mills, in Calcutta, Bombay, and Mysore, in which silk fabrics are manufactured on power-driven looms, but the quantity of raw silk utilized in these mills is a very small part of the total, the hand-loom weaver being by far the largest consumer. Important weaving centers are Benares, in the United Provinces, and Surat, in the Presidency of Bombay. Other centers are in the Punjab, Bengal, the Central Provinces, Bihar, Mysore, Madras, and Kashmir. Exports of silk goods are not large, most of the

production being consumed locally. The handloom industry is protected by a duty imposed on both silk and rayon, effective May 1934.

Recommendations.

1. The Mission recommends that every effort be made to expedite the movement of jute products by rail, although it recognizes the unusual conditions under which the railroads of India are now operating.
2. Inasmuch as the capacity for the manufacture of jute products in India exceeds the effective export demand, the Mission recommends the conservation of electric power by the closing of those Jute mills, the products of which are not now required.
3. The Mission recommends that the request of the Government of India for electric motors to provide additional power and emergency equipment for the cotton textile industry be supplied through the Lend-Lease Administration.
4. The Mission recommends that efforts be made to expand the capacity for the production of filature-reeled silk in order that more substantial quantities of this important material may be made available for the manufacture of parachutes for India and others of the United Nations.

Hides, Skins, and Leather.

It is estimated that there are about 200,000,000 cattle, 26,000,000 goats, and 22,000,000 sheep in India. Because of the religious tenets of a large number of the Indian people, only a small percentage of Indian raw hides are from animals actually killed or slaughtered; most of the hides are from animals that have died from natural causes. The annual production of marketable raw hides is estimated at about 7,000,000. In relation to the number of cattle, this production is considerably below that in most other cattle-raising countries. Moreover, the average quality of the hides from India is lower than that of hides from the United States and Argentina.

India is the world's third largest producer of sheepskins, being exceeded only by the United States and Australia; average production in India is somewhat in excess of 15,000,000 skins. India, however, is the largest producer of goat and kid skins in the world; annual production amounts to about 34,500,000 skins, or approximately 30 percent of the world total.

India is a large exporter of hides and skins. Exports of these products from India in recent years are shown in table 16.

TABLE 16.

HIDES AND SKINS: EXPORTS FROM INDIA.

Type.	Fiscal year 1935-36.	Average 1934-38.	April 1, 1941 to March 31, 1942.	
	Tons.	1,000 pcs.	Tons.	1,000 pcs.
Hides[1]	...	4,556	...	2,126
Raw ...	22,677	...	8,915	...
Tanned ...	14,029	...	26,994	...
Skins[2] ...	...	50,012	...	36,682
Raw ...	21,195	...	25,878	...
Tanned ...	6,275	...	3,682	...

[1]Principally cattle hides.
[2]Principally goat and sheep skins.
Source: Official statistics of the Government of India.

The recent decline in the exports of hides and skins from India is due to the closing of markets in continental Europe and Japan to the products of India, and to the increased demand for hides and skins within India. The decline in the exports of hides occurred entirely in raw hides, tanned hides having increased somewhat over previous years. The decline in exports of skins, however, is due chiefly to the reduction in exports of tanned skins. Most of the hides are customarily exported from Calcutta, and most of the skins, from Calcutta, Bombay, Karachi, and Madras. Since the closing of the Bay of Bengal, however, this traffic has been diverted to ports on the west coast.

In 1938 there were 14 leather and shoe factories, 82 tanneries, and 9 hide and skin processing plants in India. These plants are located principally in Cawnpore, Bombay, and Madras. Since the outbreak of war the production of leather and leather goods has been expanded appreciably because of the increased demand for consumption within India and for export to the United Kingdom. Exports of boots and shoes, for example, were 4,000,000 pairs in the 12 months beginning April 1, 1941, as compared with 3,000,000 pairs in 1939. The United Kingdom is the principal overseas market for tanned hides and skins from India; it is also the principal market for leather goods, especially boots and shoes. India's military and essential civilian requirements for boots and shoes, and the orders placed in India for these products by the United Kingdom, exceed India's productive capacity. This matter was called to the attention of the Mission by the Government of India which requested assistance in obtaining additional machinery and equipment for the manufacture of boots and shoes.

Recommendations.

1. The Mission recommends that the additional equipment necessary for the Government of India to meet its requirements for boots and shoes be made available through the Lend-Lease Administration.
2. The Mission suggests that any substantial increase in the productive capacity for shoes and other leather goods may place a severe burden on the tanneries of India. The Government of India, therefore, may wish to consider the possibility of expanding the capacity of tanneries as well as leather factories. The Mission is willing to assist the Government in obtaining the machinery and equipment necessary for such expansion.

TIMBER AND LUMBER

Forests cover about one-fifth of the land area of India. British India has nearly 95,000 square miles of timberland, or more than 11 percent of the country's total area; in addition, there are extensive tracts of timber in the the Indian States. It is estimated that the annual yield of timber and fuel from India's forests amounts to about 876,000,000 cubic feet The forest areas are well-distributed throughout the country; in the north are the great coniferous forests of the Himalayas, in the south the teak and furniture woods of the Western Ghats, and in the central region the varied timbers of the jungle areas. There are about 28 different Indian woods already in commerce, and in some instances, as many as 12 different grades of one kind of timber are recognised.

Large quantities of timber are required by the armed forces within India and in other Empire countries. In response to this demand India has exported substantial quantities of timber and lumber to Empire countries and to others of the United Nations. Because of the enlarged demand, it is anticipated that the production of sawed timber in India may amount to as much as 750,000

tons in 1942. In addition, the lumber industry is currently engaged in the production of 10,000,000 tent poles and 76,000,000 tent pegs. Large quantities of lumber are required for the construction of barracks, munition boxes, and other products for the armed forces. Moreover, timber is of course in demand for such indirect war uses as the construction of telegraph poles, railway ties, wharf timbers, and bridges.

In addition to lumber, India's forests provide a variety of raw materials for the manufacture of paper, and substantial amounts of such materials are annually exported. There are several pulp and paper mills in India, located in Bombay, Bengal, the United Provinces, Madras, Punjab, and Travancore. These mills produce wood pulp and, prior to the war, they also manufactured annually 33,000 tons of bamboo pulp and 22,000 tons of sabai grass pulp. India's paper mills produce kraft, writing, and printing paper, and supply about one-fifth of local requirements.

The forests of India are under the direct control of the Government. Private lumbering operations are conducted under license and have been a source of considerable governmental revenue. The forest resources of the country, however, do not appear to have been adequately developed and only a small part of the total is actually being exploited. The Department of Supply, operating through the Provincial Governments, now exercises considerable control over the distribution of timber in India. The Timber Directorate of the Department arranges for all purchases of timber, lumber, and woodwork required by the defence services. The agencies for obtaining timber are the Forest Departments of the Provinces and States which, in this connection, operate as executive branches of the Timber Directorate. The Directorate maintains timber depots at Karachi, Bombay, Cochin, and Calcutta, having a capacity of about 60,000 tons of timber. These depots are designed to meet the demands of Overseas Commands.

The estimated direct and indirect requirements of sawed timber for the armed forces in 1942 are 750,000 tons. Of this quantity, only about 450,000 tons can be sawed by hand in the forests; the remainder must be sawed at the mills. Although there has been a considerable increase in mill capacity, the current annual output is estimated at only 150,000 tons. In order to meet defence requirements, therefore, the Government of India requested that additional equipment for saw-mills be made available. It suggested that the most efficient type of machinery for work in India would be small, portable mills, driven by steam, and that the aggregate annual capacity of these mills should be 100,000,000 board feet, or 166,666 tons. All sawmill equipment, including band and circular saws, must be imported into India, with the exception of small band saws suitable only for cutting softwoods.

The Mission observed that sawed lumber from the forests was transported to manufacturing centers without being dried or seasoned. This practice greatly increases the weight of the lumber transported by the railroads. It adds, of course, to the cost of transportation and represents an inefficient utilisation of transportation facilities. If drying kilns were erected adjacent to the sawmills or to lumber mills at the railheads, it would be possible to season the lumber prior to shipment, thereby effecting an increase in transportation efficiency and a reduction in its cost.

In addition to indigenous woods, India requires annually between 15,000 and 20,000 tons of Oregon pine for shipbuilding and ship repairs, there being no adequate substitute available there. Supplies of Indian fir and spruce are located in the north western Himalayas, and are too far from the shipbuilding and ship-repair yards to permit their economical transportation. Moreover, the timber must be floated down narrow streams to reach the

railways and therefore can only be supplied in short lengths. The Indian Government requested that adequate amounts of oregon pine be supplied by either the United States or Canada.

Although the ply wood industry in India has recently been expanded, its annual production is now about 5,000,000 square feet and is just adequate to meet military requirements and those for the manufacture of tea chests. India has additional and increasing need for plywood for the assembly and repair of aircraft and for the manufacture of light pontoons and assault boats. For the manufacture of such plywood, the Government of India requires modern machinery, including hot presses; it would also require equipment for the manufacture of synthetic resin which is now produced only in very small amounts.

India consumes annually about 8,500,000 square feet of wallboard, such as Celotex or Masonite, most of which is imported. It would be possible to expand appreciably the consumption of this product for both military and essential civilian requirements, and thus eliminate some of the non-essential uses of lumber. India has adequate supplies of raw materials for the production of wallboard but lacks the necessary machinery and equipment.

Recommendations.

1. The mission recommends that the Government of India review carefully its administration of forest resources in an attempt to improve their development and exploitation, not only because of the advantages to be derived from such a policy in the present emergency, but also because of the benefits that would be certain to accrue in the future.
2. It recommends that India be supplied with portable steam-driven sawmills, having a combined annual capacity of at least 100,000,000 board feet.
3. It suggests that careful study be given to the problem of transporting lumber made of Indian fir and spruce from the Himalayas to the principal consuming centers. Should this prove impractical, the Mission recommends that adequate quantities of Oregon pine be made available to India for use in the repair of ships and in essential ship construction.
4. It also recommends that additional machinery and equipment for the manufacture of plywood be made available to India in order that the Government may meet the increased demand that military necessity has placed upon it.
5. It further recommends that the machinery and equipment necessary for the manufacture of wallboard be made available to the Government of India in order that local production may replace imports.

FOODSTUFFS

Inasmuch as most foodstuffs are products of agriculture, they do not come directly within the purview of the Mission. It wishes, however, to make a few comments on related subjects which it believes might effect, at least indirectly, India's industrial war effort. India has long been a very large producer of rice, the annual quantity harvested being about 25,000,000 tons. Although production in India accounts for about two-fifths of the world total, this rice has all been consumed within the country and large quantities, ranging from 1,500,000 to 2,500,000 tons, have regularly been imported from Burma, Thailand and French Indochina. These regions are not now possible suppliers and, therefore, production in India must be increased to

meet basic requirements. Because of the urgency of this situation, the Mission was gratified to note the energetic steps being taken by the Government of India to stimulate the cultivation of this essential cereal. Tea is also a major agricultural crop in India, but it presents no special problem, except that of transportation from the principle producing centers in Assam, Bengal, Travancore, and Madras to the United Kingdom and the United States.

The Mission feels impelled to call attention to the lack of modern slaughterhouses and refrigeration plants in India. Such equipment, it believes, is essential to the proper rationing of the armed forces of the United Kingdom and the United States. Despite possible political difficulties, it suggests that the Government of India, as a war measure, may wish to consider the advisability of erecting such plants. Similarly, the Mission observed what appeared to be a need for the purification of two basic constituents in diet, salt and water. Inasmuch as salt is a Government monopoly, the installation of a salt purification plant should present no great difficulty. And the chlorine produced in India could be used to assist in the purification of the water supply at locations judged to be strategic by the armed forces.

Two specific problems relating to foodstuffs were placed before the Mission by the Government of India. One of these was the preserving of fruits, vegetables, and jams, the raw materials for which are all produced locally. India's annual requirements for these products were reported to be as follows:

	Tons
Canned vegetables, including tomatoes	6,000
Canned fruits	4,000
Jam and marmalade	4,000

Inasmuch as the preservation of these foodstuffs would conserve India's already inadequate supplies, and would effect an appreciable saving in shipping, the project appears worthy of serious consideration.

The Government of India reported to the Mission that its annual capacity for producing army service biscuits[1] was only 5,000 tons and that the annual demand of the armed forces was for 10,000 tons. It requested the assistance of the Mission in obtaining additional equipment with which to double its present biscuit-making capacity. If the capacity for the production of biscuits and bread should be appreciably increased, it might be necessary also to expand the capacity of flour mills in India to meet the increased demand of the bakeries for flour of the proper type. The Mission suggests that the Government of India may wish to investigate this possibility.

Recommendation.

1. Should it be requested by the Government of India, the Mission recommends that efforts be made to secure for India machinery and equipment necessary for the preservation of vegetables, fruits, jams, and marmalades as a measure for the conservation of both food and shipping.

2. The Mission strongly urges that the request of the Government of India for the equipment necessary to produce annually 5,000 tons of army service biscuits be promptly granted.

[1] The army service biscuit in India is made from heavy dough; when backed, it weighs 16 biscuits to the pound and is 3 inches by 2-3/4 inches by 5/16 inch in size.

EXPERTS AND TECHNICIANS FROM THE UNITED STATES

The recommendations made by the Mission are designed to increase the capacity and production of a number of Indian industries essential to the war effort. The implementation of these recommendations for the expansion of production will take three principal forms: (1) The erection of new plants, (2) the installation of additional equipment in existing plants, and (3) the re-arrangement of the machinery and equipment in existing plants. For this work the services of a number of experts and technicians will be required and India will be unable to provide all of the skilled personnel necessary to accomplish the task. The Government of India, therefore, requested the Mission to assist it in obtaining the services of several trained technicians and experts from the United States who, by virtue of their knowledge and experience, could act as temporary advisers on industrial production.

As a result of its investigations the Mission suggested to the Government of India that experts be sent from the United States to assist in solving the problems in transportation that have arisen because of the unusual burdens placed upon the railways and the congestion at west-coast ports.[1] Moreover, to stimulate industrial production, the Mission suggested that six production engineers from the United States be sent to India. These experts, acting as advisers to the Government of India, would be able to offer constructive suggestions for the improvement of plant arrangement of methods of production in privately owned factories and in those owned by the Government. The Government of India approved these suggestions and offered to make such experts its guests during their stay in India. The Mission, on its part, agreed to recommend that the salaries of these experts and their travelling expenses should be borne by the Government of the United States.

Because of plans to increase the production of essential war materials, officials of the Government of India have stated that, for special assignments, they would require the services of additional experts from the United States and requested the assistance of the Mission in obtaining them. The travelling expenses and salaries of all such experts would be paid by the Government of India. Officials of the Government asked for three technicians for the manufacture of machine tools who could supervise the programs of existing workshops, and who could teach and demonstrate production technique, it asked for two expert jig and tool makers and two expert jig and tool setters. It requested the services of an expert in the manufacture of tools, particularly shell tools, and for an expert in nonferrous metals who has training and experience in metallurgical work, including casting, drawing, and rolling. It also asked for two instrument makers skilled in the manufacture of surveying and other scientific instruments. These requests were endorsed by the Mission and a telegram was despatched to the Government of the United States asking that inquiries be made concerning the possibility of obtaining the services of such men.

Should other recommendations of the Mission be implemented, officials of the Government of India indicated that they would require additional expert assistance. Specific mention was made of experts for die casting, sulphur refining, coal-tar distillation, and the manufacture of record syringes and surgeons' gloves. Concerning these possible requests, the Mission agreed to render whatever assistance it could when the need should arise.

Officials of the Tata Iron and Steel Company asked the Mission while it was in Jamshedpur, to assist the company in obtaining from the United States the services of two production engineers. It is the plan of the company to make one of the engineers superintendent in charge of its railroad wheel, tire,

[1] See Recommendations, section on Transportation and Communication.

and axle plant. The other engineer would advise the company concerning the operations of its machine shops, with a view to increasing their load and efficiency.

Recommendations.

1. The Mission recommends to the Government of the United States that experts be made available to advise the Government of India on problems pertaining to transportation and industrial production.
2. It agreed to assist the Government of India in obtaining from the United States various technicians and experts to assist in its program for the expansion of the production of essential war materials.
3. It agreed to assist the Government of India in obtaining additional expert assistance when specific needs should arise.
4. It further agreed to assist the Tata Iron and Steel Company in obtaining from the United States the services of two production engineers.

LABOR

The Government of India and some of the Indian States have inaugurated schools for the training of various types of technicians, ranging from chauffeur mechanics to machine-tool operators. In addition, several of the large factories have training programs for young and inexperienced employees. The Mission was impressed with the good quality and excellent potentialities of Indian labor. The Indian is skillful with his hands, and, given satisfactory working conditions with security of employment; is dependable and industrious.

In a number of plants visited by the Mission, workers who had never been in an industrial plant until recently were doing skilled work, and the labour turn-over was small. These plants are the exception rather than the rule, but the accomplishments there could be achieved elsewhere. Even in zones subject to air attacks, laborers have remained at their work. The Tata Iron and Steel Company is a good example. While some plants in and around Calcutta have been losing as high as 50 percent of their labor because of apprehension concerning hostilities, the Tata Company in an equally hazardous positions has had almost no loss. The flight of labor from the Calcutta area, where about 75 percent of war production is taking place, presents a serious current and future threat to sustained production. The Mission is not impressed by the argument of many industrialists that special wage bonuses in danger areas will stimulate, rather than diminish, the "flight from plant" because laborers will wish to spend these extra earnings in their home villages. The Tata Company and some other plants have had no such experience. The Tata Company has a system of bonuses and has acquired a 4 week's supply of food near the plants; it also has hostels and air shelters which give the workers a sense of security from the hazards of air attack. Workers are much the same the world over. They will respond favorably to good working conditions, security of employment, and opportunity for increased earnings.

The labor training program of the Department of Labor seems well conceived and ably directed. It is doubtful, however, that its present scope is adequate for the required expansion of industrial production in India. At least twice the present number of trainees would seem to be necessary. While training by the Department must be supplemented in the plants where the young men will be employed, it reduces the time of training that would other-

wise be required in the plants. The Mission feels strongly that plant training must also be greatly augmented. Plant managers are somewhat reluctant to make investment in training, but the experience of industrial countries like the United States demonstrates that sums spent for this purpose are fully justified from the standpoint of both the volume and cost of production.

The technical personnel which the Mission is seeking in the United States will aid in attaining the aims of the training program by the introduction of refinements in the technique of mass production. Trained personnel can usually increase its production if the ratio of machinery to manpower is also increased. Moreover, mass-production plants require less skill per unit of output than do jobbing plants.

The increased industrialization in India, whether for purposes of war or peace, and the effective training of labor, will be largely conditioned by the attitude of the Government and the industrialists toward wages and labor conditions. There must be a real incentive in increased earning power to induce young men to seek and accept training. Given the possibility of steadily increasing earnings, favorable working conditions, and adequate security, India will rapidly develop a body of skilled labor adequate for the expanding program of war production.

Recommendations.

1. The Mission recommends that the training program conducted by the Department of Labor of the Government of India and by some of the Indian States be expanded, as rapidly as possible, to at least twice their present size.
2. It recommends that the Government of India encourage the expansion of training programs in private industries and the inauguration of such programs in those industries which are not now conducting them.
3. It further recommends that the Government of India adopt a policy designed to enhance the earning power of labor, to improve its working conditions, and to provide increased security against both hostilities and unemployment.

Conclusion

In concluding this report, the Mission wishes to reemphasize its belief in the strategic importance of India to the cause of the United Nations. It desires again to call attention to India's great potentialities for industrial production because of its vast natural and human resources. The Mission feels that the utilization of the natural resources can be greatly developed and expanded, provided adequate tools are made available for that purpose, and it has seen evidence of the mechanical aptitude of Indian workmen who, given the proper incentives and working conditions, can become skilled craftsman after a short period of training.

The American Technical Mission to India is strongly of the opinion that the prompt implementation of the recommendations contained in this report will not only strengthen the defense of India but will also permit that country to become a base for decisive offensive action against the enemy. It believes that India affords a unique opportunity to turn the tide of battle on the Eastern Front against the Axis Powers. It urges, therefore, that the most serious consideration be given to its recommendations by the Government of India, the United Kingdom, and the United States, in order that full advantage may be taken of the opportunity thus presented.

Sd: Henry F. Grady, Chairman
Sd: H. E. Beyster
Sd: Dirk Dekker
Sd: A. W. Herrington
Sd: Frank A. Waring, Executive officer.

APPENDIX

MEMORANDUM
ON
PERSONNEL AND TRAINING

Submitted to
HENRY F. GRADY,
Chairman,
American Technical Mission

By
DIRK DEKKER,
Member of the Mission

Personnel and Training

Maximum efficient production requires a balance in (1) material, (2) machinery, (3) methods, and (4) men. The Mission has dealt elsewhere with material and machinery, and to some extent with methods. The following recommendations deal with men, and by inference, with methods.

The problem under highly stimulated production and expansion is essentially one of quick conversion of sheer "manpower" into "productive power" on a large scale, in a short time, to a maximum degree.

Training efforts in Indian industries range from none to those that are comparable with the best in the United States. Allowing for some handicaps inherent in India, the technical training scheme of the Department of Labour (March 1942) forms a good basis upon which to give young men fundamental training in the usual trades or crafts.

In view of the above, and other personal observations I now recommend :

1. The appointment of a Commissioner of Industial Training, directly under the Labour Member.
2. The utilization of the present recruiting, inspecting, and visiting organizations in the Department of Labour, which cover practically the whole of India, to advance the program of training within industry.
3. The enlargement of these groups by selecting additional personnel for the same purpose.
4. The schooling of this entire personnel in how to teach and train.
5. The giving of short courses by this specially trained personnel to groups of 12 foremen and skilled men (who will be, or are, doing training in war industries) on how to instruct new workers [1].
6. All technicians and experts sent from the United States should be given this short course before their departure from the United States.
7. Technical or supervisory personnel must be obtained :
   (a) From abroad, for the most highly specialized.
   (b) From Indian universities and colleges, [2].
   (c) By systematic help, encouragement, and "upgrading" of the skilled Indian worker [3].
8. Visual instruction aids should be used to help in the training of young men for the machinist trades. Excellent sound movie films are available in the United States for this purpose.
9. Those engaged in training should also be made aware of the rudiments of time and motion study.
10. The development of this program should be the responsibility of the Commissioner of Industrial Training.

Sd : Dirk Dekker

Calcutta, May 8, 1942.

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[1] This program follows essentially the plans of the War Production Board for Training Within Industry now used effectively in the United States. In minor respects it should be adapted to India.

[2] To expedite the program the college years should be shortened.

[3] Prerequisites must be relaxed to a minimum

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REPORT

OF

THE INDIAN DELEGATION

TO THE

UNITED NATIONS MONETARY & FINANCIAL CONFERENCE

AT BRETTON WOODS

(July 1 to July 22, 1944)

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CHAPTER I.—INTRODUCTION

The discussion of post-war international monetary reconstruction came to the fore with the publication almost simultaneously in April 1943, of the British Treasury proposals for an International Clearing Union and the orignal United States Treasury plan for an International Stabilisation Fund, associated respectively with the names of Lord Keynes and Dr. Harry White. The publication of the two plans roused considerable general interest in the subject and was followed by continuous study and discussions in the economic and financial press and in personal meetings among official and other experts in Washington and London. The original American Plan underwent successive revisions, while a compromise Canadian Plan for an International Exchange Union was issued in August 1943. In November 1943 there was published by the United States Treasury the Preliminary Draft Outline of a Proposal for a United Nations Bank for Reconstruction and Development. In April 1944, the Joint Statement by Experts on the Establishment of an International Monetary Fund of the United and Associated Nations was issued and was subsequently published in many countries; this was a statement of principles representing the measure of agreement reached by the experts who had from time to time discussed the various proposals. Subsequently invitations were issued on behalf of the President of the United States to the Governments of the united and associated nations to send delegates to a formal monetary conference in the United States for the purpose of formulating definite proposals for an international monetary fund and possibly a bank for reconstruction and development. It was explicitly mentioned in the invitations that the delegates were not required to hold plenipotentiary powers and that the proposals formulated at the Conference would be referred to the respective Governments and authorities for their acceptance or rejection. The United Nations Monetary and Financial Conference composed of delegates from forty-four nations accordingly met at Bretton Woods, New Hampshire, on the 1st July 1944.

2. **The Indian Delegation.**—The Indian Delegation to the United Nations Monetary and Financial Conference was composed as follows:—

Sir Jeremy Raisman, K.C.S.I., C.I.E., I.C.S., Finance Member of the Governor-General's Council—*Chairman.*

Sir Chintaman D. Deshmukh, C.I.E., Governor, Reserve Bank of India.

Sir Theodore E. Gregory, D.Sc., Economic Adviser to the Government of India.

Sir Shanmukham Chetty, Formerly President of the Indian Legislative Assembly.

Mr. A. D. Shroff, Director, Tata Sons Ltd.

Dr. B. K. Madan, Director of Research, Reserve Bank of India.—*Secretary.*

Sir David Meek, Indian Trade Commissioner in London, was associated with the Delegation as Adviser.

Sir Jeremy Raisman was in the United Kingdom when the invitation to the Conference was received. Sir Theodore Gregory left India on the 15th June, two days before the rest of the Delegation, as he had been designated to attend a meeting of technical experts at Atlantic City for the preparation of a draft agenda to be submitted to the Conference. The other members of the Delegation with the Secretary left Karachi on the 17th June and arrived at New York on the 23rd June. Sir Jeremy Raisman had arrived there on the same day, having crossed from England by sea on the ship which brought the United Kingdom delegation and various representatives of the Governments of European countries then in London. The Delegation met for the first time at New York when the Leader, Sir Jeremy Raisman, apprised the other members of the Delegation of the nature of certain informal and preparatory discussions which had taken place on board the ship. It was decided at this meeting that Sir Jeremy Raisman and Sir Chintaman Deshmukh should go to Atlantic City with a view to ensuring that the questions in which we were particularly interested, especially the sterling balances, were included in the draft agenda

of the Conference, although it proved in the event that the fullest opportunity was given by the Conference authorities at all stages to all delegations to bring forth any amendments, which they desired to see incorporated in the draf' Agreements. At Atlantic City, the Indian delegates present moved two amendments with the object of securing the inclusion among the purposes of the International Monetary Fund, of the following: 'To assist in the fuller utilisation of the resources of economically underdeveloped countries' and 'To promote and facilitate the settlement of abnormal indebtedness arising out of the war.' The course of discussions on these resolutions is reviewed later. The Delegation held continuous informal meetings and discussions during the intervals of the Conference sessions at Bretton Woods and returned to Washington after the Conference on the 24th July. On the 26th July they held a final meeting to consider the general form of the report to be submitted to Government on the subject of their mission to Bretton Woods.

3. **General Survey of the Conference, Constitution, Commissions, Committees and Procedure.**—The Conference held its opening Plenary Session on the afternoon of the 1st July, with the Honourable Henry Morgenthau, Jr., Secretary to the United States Treasury, designated as Temporary President of the Conference by President Roosevelt, in the Chair. It opened with a message from President Roosevelt welcoming the members of the Conference to Bretton Woods which *inter alia* contained the following observations: 'At Bretton Woods, you who come from many lands are meeting for the first time to talk over proposals for an enduring program of future economic co-operation and peaceful progress.

The program you are to discuss constitutes, of course, only one phase of the arrangements which must be made between nations to ensure an orderly, harmonious world.'

The Temporary President, Mr. Morgenthau, was thereafter elected Permanent President of the Conference and proceeded to deliver his presidential speech. In his speech Mr. Morgenthau pointed out that although the Agenda of the Conference was concerned specifically with the monetary and investment field, it should be viewed as part of a broader program of agreed action among nations to bring about the expansion of production, employment and trade contemplated in the Atlantic Charter and in Article VII of the Mutual Aid Agreements concluded by the United States with many of the United Nations.

4. The Second Plenary Session of the Conference met on the 3rd July forenoon. The Conference invited the Danish Delegate, in his personal capacity as Adviser, to attend the meetings of the Conference without the privilege of a vote and also invited various international organisations such as the International Labour Office, the United Nations Relief and Rehabiliation Administration, the Economic Section of the League of Nations and the United Nations Interim Commission on Food and Agriculture to send one observer each to attend the sessions of the Conference without the privilege of a vote.

The general organisation of the Conference had been determined in a meeting of the heads of the Delegation immediately preceding the opening session of the Conference. The Conference set up three Commissions—Commission I on the International Monetary Fund, Commission II on the Bank for Reconstruction and Development and Commission III on Other Means of International Financial Co-operation. Every delegation was represented on all the Commissions. The principal officers of these Commissions are listed below:—

COMMISSION I

International Monetary Fund.

Chairman: Harry D. White (United States of America)
Vice-Chairman: Rodolfo Rojas (Venezuela).
Reporting Delegate: L. Rasminsky (Canada).

COMMISSION II

BANK FOR RECONSTRUCTION AND DEVELOPMENT

Chairman: Lord Keynes (United Kingdom).
Vice-Chairman: Luis Alamos Barros (Chile).
Reporting Delegate: Georges Theunis (Belgium).

COMMISSION III

OTHER MEANS OF INTERNATIONAL FINANCIAL CO-OPERATION

Chairman: Eduardo Suarez (Mexico).
Vice-Chairman: Mahmoud Saleh El Malaky (Egypt).
Reporting Delegate: Alan G. B. Fisher (New Zealand).

Most of the work of Commission I and a large part of the work of Commission II was carried on through four standing committees as follows:—

COMMISSION I

Committee 1. Purposes, Policies and Quotas of the Fund.
Committee 2. Operations of the Fund.
Committee 3. Organisation and Management.
Committee 4. Form and Status of the Fund.

COMMISSION II

Committee 1. Purposes, Policies and Capital of the Bank.
Committee 2. Operations of the Bank.
Committee 3. Organisation and Management.
Committee 4. Form and Status of the Bank.

5. The Indian Delegation had decided that its members should not take up multifarious offices but should keep themselves as free as possible for effective participation in the deliberations of the Commissions and the various Committees. We were, however, invited to nominate and did nominate one of the delegates, Sir Chintaman D. Deshmukh, as Chairman of Committee 4 of Commission II on the Form and Status of the Bank. The meetings of the Commissions never overlapped and the Indian Delegation generally found it possible to attend and participate as a whole in the Commission meetings. But the meetings of Committees 3 and 4 of Commission I were often held simultaneously with those of Committees 1 and 2 of that Commission, and a large degree of specialised representation gradually developed, Sir Chintaman Deshmukh and Sir Theodore Gregory attending to the business of Committees 3 and 4 (relating to organisation and management and the form and status of the Fund). Towards the latter part of the Conference, moreover, the Committees of Commission II functioned at the same time as those of Commission I and it was found convenient to have Sir Chintaman Deshmukh represent the Indian Delegation on these Committees, while the rest of the Delegation attended to the business of Commission I.

6. After the second plenary session which set up the organisation, the Conference split up, for the purpose of conducting its business, into the respective Commissions and Committees. The Committees reported to the Commission at intervals of a few days each, whenever there was a sufficient accumulation of agreed conclusions or unresolved differences to report. The Commission either determined the issues or referred them back to the same or a different Committee with more specific instructions in the light of the fuller exchange of views which had taken place in the Commission itself. The Committees in turn set up, as a means of economising time and dealing more effectively with matters of substance, Drafting, Language or 'Asterisk' subcommittees of their own to report on matters of appropriate wording and proper legal expression. In addition, the Commissions set up *ad hoc* Committees to consider and report on specific questions.

7. Commission I set up special Committees on Uniform Changes in Par Values of Currencies, Exchange Controls on Current Payments, Depositories, Relations with Non-Member Countries, Special Problems of Liberated Areas,

Voting Arrangements and Executive Directors and Quotas. India was represented on the Committee on Quotas, which was set up at a very late stage, by mittee and entered a reservation on behalf of India (*vide* para. 31). At a later stage, moreover, the amount of subject matter left over by various Committees was such that it was considered an advantage to set up a Special Committee on Unsettled Problems to deal with all undecided questions. A Drafting Committee was entrusted with the task of recording the decisions of Commission I. This procedure proved helpful in bringing the work of the Commission to an early conclusion. It held nine sessions altogether and the standing committees held twenty-six meetings. At its final session on July 19, the Commission adopted the Articles of Agreement of the International Monetary Fund, and the report of Commission I was transmitted to the Executive Plenary Session of the Conference on July 20, 1944. After the report had been presented to the Executive Plenary Session for consideration, Lord Keynes, referring to the list of reservations which had been made by delegations from various countries (*cf.* Chapter III), suggested that the particular points of reservation mentioned by the delegations might be retained in the minutes of the Commission where they were already recorded and not be made part of the Final Act of the Conference, which was subject to a general reservation on the part of all delegations in the sense of 'the entire absence of commitment on the part of our Governments'. 'So far as the United Kingdom Delegation is concerned,' said Sir Jeremy Raisman, who was unable to accept the conclusions of this Com- Lord Keynes, 'we, in common with all other delegations, reserve the opinion of our Government on the document as a whole and on every part of it. The whole of the proceedings is *ad referendum* to our Governments who are at the present stage in no way committed to anything. We have gathered here to put our heads together to produce the most generally acceptable document we could frame. We do not even recommend our Governments to adopt the result. We merely submit it for what it is worth to the attention of the Governments and legislators concerned.' Lord Keynes's proposal was seconded by the Vice-Chairman of the Delegation of the United States, and on this understanding all the delegations which had made reservations either withdrew them or agreed to have them remain in the minutes of the Commission. The Indian Delegation took this course, among others, including France and the Union of Soviet Socialist Republics.

8. Commission II (International Bank for Reconstruction and Development) met nine times between July 3 and July 21, when its final session adopted the Articles of Agreement of the Bank for Reconstruction and Development. At its first meeting the Commission set up an Agenda Committee which subsequently became the Drafting Committee and on which the Indian Delegation was represented by Sir Chintaman Deshmukh. The Commission met again on July 11. As in Commission I, the detailed work was divided between four Committees; at the same time several *ad hoc* sub-committees were created to examine special points and matters such as membership, subscription, rates of capital employable, flat rate of commission, relationship of international agencies, management, suspension and withdrawals and taxation. There was, as in Commission I, a Special Committee on Unsettled Problems. Most of the sub-committees and *ad hoc* Committees were created directly by the Commission and reported directly to the Commission, thus expediting the despatch of business. The work of Commission II was simpler in some respects and more complicated in others than the work of Commission I. It was simpler because it was found possible to adopt or adapt many of the provisions relating to general organisation evolved in connection with the Fund to the problems of the Bank, and more complicated because of the smaller amount of preparatory work done before the Conference met. The report of Commission II was submitted to and approved by the Executive Plenary Session of the Conference on July 21, 1944.

9. A large number of proposals were submitted to Commission III (Other Means of International Financial Co-operation) and were referred to the Agenda Committee appointed at its first meeting on July 3, to consider the suggestions

received and make recommendations as to the problems which should be dealt with by the Commission. The Indian Delegation was represented on the Committee by Sir Theodore Gregory. The proposals related to three general fields: 'The Use of Silver for International Monetary Purposes,' 'Enemy Assets, Looted Property and related matters' and 'Recommendations on Economic and Financial Policy, the Exchange of Information and other means of Financial Co-operation.' The Commission held three sessions and its report entitled 'Other Measures of International Monetary and Financial Co-operation' was presented to the Executive Plenary Session on July 21, 1944.

10. The closing plenary session of the Conference was held at 9-45 P.M. on July 22, 1944, under the Chairmanship of the Honourable Mr. Henry Morgenthau. Lord Keynes moved the acceptance of the Final Act of the Conference to be submitted to the respective Governments for consideration. He concluded with the following words:

'We have perhaps accomplished here in Bretton Woods something more significant than what is embodied in this Final Act. We have shown that a concourse of forty-four nations are actually able to work together at a constructive task in amity and unbroken concord. Few believed it possible. If we can continue in a larger task as we have began in this limited task, there is hope for the world.' The motion was supported by the Chairmen of the Delegations of France, Canada and the Union of Soviet Socialist Republics and was carried unanimously. The Chairman read a message from President Roosevelt conveying his heartiest congratulations to the representatives of the forty-four nations gathered at Bretton Woods on the successful completion of their difficult task. Mr. Henry Morgenthau thereupon delivered his address to the closing plenary session at 10-45 P.M. The Conference concluded about midnight with the heads of the Delegations appending their signatures to the Final Act. This was done in accordance with Article 32 of the Regulations of the Conference which provided that 'the conclusions at which the Conference may arrive shall be incorporated in a Final Act which shall be signed by the heads of the delegations at the final session'. The Final Act takes the form of a record of the accomplishments of the meeting including:—

(1) A recital of the fact that the Conference assembled in Bretton Woods in response to an invitation of the Government of the United States;

(2) A listing of the delegates;

(3) A listing of the officers of the Conference as well as its technical Commissions and Committees; and

(4) The conclusions at which the conference arrived.

The last section contains the texts of:—

(a) The Articles of Agreement of the International Monetary Fund:

(b) The Articles of Agreement of the Bank for Reconstruction and Development; and

(c) Other declarations, recommendations, and resolutions which were agreed upon by the Conference.

This record was subscribed by the Heads of the respective delegations accredited to the Conference. The signature of the Final Act, therefore, was a simple attestation by those signing of the accuracy of the record presented.

11. **Scheme of the Remaining Report.**—The scheme of the report in the following pages is to give a general summary of the Articles of Agreement relating to the International Monetary Fund in the second Chapter, and to take up for fuller review in the third Chapter the discussions on aspects or questions relating to the Fund in which the Indian Delegation took particular interest or which received relatively greater attention in the Conference discussions. The questions which interested the Indian Delegation especially were two amendments to the purposes of the Fund and the quotas, more particularly in their bearing on India's place in the Executive Directorate. The fourth Chapter summarises the Articles of Agreement of the International Bank for Reconstruction and Development and includes some reference to the course of discussion in the Commission on a few of the more important provisions. The fifth and

last Chapter deals with the work of Commission III regarding other measures of economic and financial co-operation among nations.

CHAPTER II.—THE INTERNATIONAL MONETARY FUND: SUMMARY OF ARTICLES OF AGREEMENT

12. The Articles of Agreement of the International Monetary Fund contain twenty articles and five schedules. The Articles relate to or provide for such matters as purposes, membership, quotas and subscriptions, par values of currencies, transactions with the fund including capital transfers and scarce currencies, general obligations of members, relations of the Fund with other international organisations and with non-member countries, organisation and management, the transitional period etc.

13. **Purposes.**—The purposes of the International Monetary Fund are described to be to promote international monetary co-operation through a permanent institution, to facilitate the expansion and balanced growth of international trade, to promote exchange stability, maintain orderly exchange arrangements among members and avoid competitive exchange depreciation, to assist in the establishment of a multilateral system of payments (and trading), and to make the Fund's resources available to member countries to help them to correct maladjustments in their balances of payments in an orderly manner and without recourse to emergency measures under immediate pressure with destructive consequences to national or international prosperity.

The countries represented at the United Nations Monetary and Financial Conference whose governments accept membership before December 31, 1945, shall be original members of the Fund and other countries may be admitted later by the Fund.

14. **Quotas and Subscriptions.**—Each member shall be assigned a quota, the quotas of the original members being specified in a schedule to the Articles of Agreement. The aggregate of such quotas in term of dollars is 8,800 million and the fourteen largest quotas are, in order, those of the United States 2,750 million, the United Kingdom 1,300 million, the Union of Soviet Socialist Republics 1,200 million, China 550 million, France 450 million, India 400 million, Canada 300 million, Netherlands 275 million, Belgium 225 million, Australia 200 million, Brazil 150 million, Czechoslovakia and Poland 125 million each and the Union of South Africa 100 million. The quotas shall be subject to periodic or occasional review by the Fund but shall not be altered without a four-fifths majority and without the consent of the member concerned. The members' subscription shall equal their quota and shall be payable to the minimum extent of 25 per cent. of the quota or 10 per cent. of the member's net official holdings of gold and United States dollars, whichever be smaller, in gold, and the balance in a member's own currency or in securities.

15. **Par Values of Currencies.**—The par value of the members' currencies shall be expressed in terms of gold as a common denominator or in terms of the United States dollar of the weight and fineness in effect on July 1, 1944. Purchases and sales of gold by a member and transactions in exchange by a member shall not vary from parity by more than a fixed margin, which shall be one per cent. in the case of 'spot' exchange transactions. Each member shall collaborate with the Fund to promote exchange stability, to maintain orderly exchange arrangements with other members and to avoid competitive exchange alterations, in accordance with the purposes of the Fund referred to above. These objectives shall be attained by each member undertaking, through appropriate measures, to permit within its territories exchange transactions between its currency and the currencies of other members only within the prescribed limits. A member whose monetary authorities, for the settlement of international transactions, in fact freely buy and sell gold within the limits prescribed by the Fund, shall be deemed to be fulfilling this undertaking.

A change in the par value of a member's currency shall be made only on the proposal of the member and after consultation with the Fund, to correct

a fundamental disequilibrium, without objection from the Fund up to 10 per cent. of the initial par value, but subject to concurrence or objection by the Fund if it exceeds 10 per cent. and does not exceed a further 10 per cent., within a period of seventy-two hours on a member requesting immediate decision. Proposed changes beyond this limit shall be subject to concurrence or objection by the Fund within a longer period. Having regard to the special conditions of the Union of Soviet Socialist Republics and in deference to its wishes a provision has been incorporated in the Agreement to the effect that a member may change the par value of its currency without the concurrence of the Fund, if the change does not affect the international transactions of members of the Fund. The Fund shall not object to a proposed change because of the domestic, social or political policies of the member proposing the change. In the event of unauthorised changes being made by a member, it shall be liable to be made ineligible to use the resources of the Fund and to compulsory withdrawal from membership in due course.

The Fund by a majority of the total voting power and the approval of all members with ten per cent. or more of the total quotas (the United States, the United Kingdom and Russia according to the present quotas) may make uniform proportionate changes in the par values of the currencies of all members, *i.e.* effect general depreciation or appreciation of all currencies in terms of gold. Any member, however, that does not wish the par value of its currency to be changed by such action may inform the Fund within seventy-two hours of its action and the par value of its currency shall not be changed under this provision.

The gold value of the Fund's assets shall be maintained notwithstanding changes in the par or foreign exchange value of the currency of any member, through the member paying to the Fund, or the Fund returning to the member, an amount of its currency equal to the reduction or the increase respectively in the gold value of its currency held by the Fund. Unless the Fund otherwise decides, the quotas of all members shall be uniformly and proportionately increased or decreased when a uniform proportionate reduction or increase (general 'depreciation' or 'appreciation') is made in the par values of the currencies of all members.*

16. Transactions with the Fund.—A member country's treasury, central bank, stabilisation fund or other similar fiscal agency shall be the agency for all dealings with the Fund.

The fund shall operate only for the purpose of supplying a member, on the member's initiative, with the currency of another member in exchange for gold or for the member's own currency. Purchases of foreign exchange from the Fund against a member's own currency shall be subject to the condition that the Fund's holdings of the currency of the member desiring to purchase foreign exchange have not increased, after having been brought above 75 per cent. of its quota if they had been below that amount, by more than 25 per cent. of its quota during the period of twelve months preceding the date of purchase, and do not exceed 200 per cent. of its quota. In other words, the full quota of permissible borrowing of foreign exchange assigned to a member can be drawn only in instalments over a period of not less than four years. The Fund may, however, waive this condition on terms which safeguard its interests, especially in the case of members with a record of avoiding large or continuous use of the Fund's resources and taking into consideration periodic or exceptional requirements of the member requesting the waiver. Collateral security in the form of gold, silver, securities or other acceptable assets may be required as a condition of the waiver.

***For instance, if the gold value of the dollar and of all other currencies is reduced by, say, 10 per cent., the total of all quotas (in terms of dollars) which is $8,800 million at present, may (or may not) be increased to $9,777-7/9 million, the measure of increase corresponding to a reduction of 10 per cent. being 11-1/9 per cent. viz. an increase to 10/9ths against a reduction to 9/10ths.**

Any member using the resources of the Fund in a manner contrary to the purposes of the Fund may be declared ineligible to use the resources of the Fund.

Any member desiring to obtain the currency of another member for gold shall acquire it by the sale of gold to the Fund, provided that it can do so with equal advantage; no member shall, however, be precluded from selling in any market gold newly produced from mines located within its territories.

With a view to preventing the accumulation of reserves of foreign exchange by a member country making use of the borrowing facilities of the Fund instead of relying upon its own resources, a provision is made for the repurchase from the Fund with gold or convertible currencies of part of a member country's own currency, if the holdings of its currency with the Fund have increased, or if a country's monetary reserves have increased (beyond its quota) *and* the Fund's holdings of its currency are not below seventy-five per cent of its quota.

Charges on Borrowing from Fund.—Borrowing from the Fund (or buying the currency of another member from the Fund in exchange for a member's own currency) shall be subject to a service charge of three-fourths per cent., on all transactions, *plus* a scale of charges rising for period and amount of loan outstanding from one half per cent. per annum to a maximum of five per cent. The charges shall be payable in gold; but the gold payment may be reduced for members whose monetary reserves are less than one-half of their quota. It may be of interest to give the scale of charges here in tabular form (1) on the assumption that a member draws the amount permissible each year without availing itself of the provision regarding waiver, and (2) on the assumption that the 25 per cent. annual limit on the utilisation of the quota referred to above. is waived and a member is allowed to draw varying amounts upto the full amount of the quota in the first year.

Percentage Charges Payable by a Country on Fund's Holdings of its Currency in Excess of its Quota

I. Marginal Charges: assuming a member to draw the full amount permitted each year *without waiver* (after the Fund's holdings of its currency have reached 100 of its quota).

Amount of country's currency held by Fund as percentage of country's quota	Per cent. per annum payable on excess currency during									
	1st year	2nd year	3rd year	4th year	5th year	6th year	7th year	8th year	9th year	10th year
101—125	3/8†	1	1½	2	2½	3	3½	4*	4½	5
126—150	..	1	1½	2	2½	3	3½	4*	4½	5
151—175	..	..	1½	2	2½	3	3½	4*	4½	5
176—200	..	..	..	2	2½	3	3½	4*	4½	5

II. Marginal Charges

Amount of country's currency held by Fund as percentage of country's quota	Per cent. per annum payable on excess currency during									
	1st year	2nd year	3rd year	4th year	5th year	6th year	7th year	8th year	9th year	10th year
101—125	3/8†	1	1½	2	2½	3	3½	4*	4½	5
126—150	1	1½	2	2½	3	3½	4*	4½	5	5
151—175	1½	2	2½	3	3½	4*	4½	5	5	5
176—200	2	2½	3	3½	4*	4½	5	5	5	5
Additional amounts. Corresponding increase up to 5%.										

† No payment in first three months, ½ per cent. in next nine months.

* At this point the Fund and the member shall consider ways and means by which the Fund's holdings of the member's currency can be reduced.

NOTE.— No charge is made on use of the Fund resources in an amount equivalent to a member's gold subscription.

17. **Capital Transfers.**—The Articles of Agreement contain provisions to prevent the use of the Fund's resources to finance large capital exports by a member country in debt to the Fund. Special provisions however permit, within certain limits, capital transfers through the Fund by a member which has maintained a net credit position with the Fund for some time, subject to the limitation that such capital transfers may not raise the Fund's holdings of the member's currency above seventy five per cent. of its quota.

Members may exercise the controls necessary to regulate international capital movements.

18. **Scarce Currencies.**—The Fund may replenish its holdings of a scarce currency by borrowing that currency from the member or from some other source within the member's territories; with its approval, or by requiring the member to sell its currency to the Fund for gold. The Fund may apportion the supplies of a scarce currency with due regard to the relative needs of members. Members shall be authorised to impose limitations on the freedom of exchange operations in the scarce currency.

19. **General Obligations of Members.**—Subject to the provisions relating to scarce currencies and the transitional period, no member shall, without the approval of the Fund, impose restrictions on the making of payments and transfers for current international transactions. Members may co-operate in measures for the purpose of making their exchange control regulations more effective. No member shall engage in any discriminatory currency arrangements or multiple currency practices, except such as are approved by the Fund, and any members who engage in them, otherwise than in accordance with the provisions relating to the transitional period, shall consult with the Fund as to their progressive removal.

Each member shall buy balances of its currency held by another member at the latter's request, if the balances have been recently acquired as a result of current transactions, or if their conversion is needed for making payments for current transactions, the buying member having the option to pay in the currency of the member making the request or in gold; but this obligation shall not apply, among other circumstances, when the convertibility of the balances has been restricted with a view to control of capital transfers, or the balances have accumulated during the continuance of exchange restrictions imposed by a member for the transitional period. Other obligations of members include furnishing the Fund with economic and financial information relating to the country necessary for the Fund's operations and within the ability of members to supply.

20. **Relations with Non-Members Countries.**—Each member undertakes not to engage in any transactions with a non-member, and not to co-operate with a non-member, in practices which would be contrary to the provisions of the Agreement or the purposes of the Fund, and to co-operate with the Fund with a view to preventing such transactions. Any member may impose restrictions on exchange transactions with non-members unless such restrictions are found to prejudice the interests of members and to be contrary to the purposes of the Fund.

21. **Organisation and Management.**—The Fund shall have a Board of Governors, Executive Directors, a Managing Director and a staff. The Board of Governors shall consist of one governor and one alternate appointed by each member, to serve for five years but to be eligible for reappointment. The Board shall meet at least annually.

There shall be not less than twelve executive directors who need not be governors and of whom five shall be appointed by the five members having the largest quotas. Two shall be elected by the American Republics other than the United States and five shall be elected by the remaining members. In addition, if at the second regular election of directors (elections shall be conducted at intervals of two years), the two largest creditors in the Fund are not among the members automatically entitled to appoint directors, either or both of such members, as the case may be, shall be entitled to appoint a

director. Each director shall appoint an alternate with full power to act for him when he is not present.

The Executive Directors shall function in continuous session at the principal office of the Fund.

Each Governor and appointed Director shall cast the number of votes allotted to the member appointing him, and each elected director shall cast the number of votes which counted towards his election.

Each member shall have 250 votes *plus* one additional vote for each part of its quota equivalent to 100,000 United States dollars. In voting on provisions relating to the waiver of conditions for drawing upon the resources of the Fund and the eligibility of a member to use the Fund's resources, the voting power of creditors with the Fund shall be increased, and of debtors reduced, to the extent of one vote for the equivalent of each 400,000 United States dollars.

In any distribution of net income the first claim shall be that of a payment at the rate of two per cent. to each creditor of the Fund on the amount by which the Fund's average holdings of its currency during a year was short of seventy-five per cent., of its quota (*viz.*, the amount of original subscription to the Fund by each member in the form of currency if twenty-five per cent. were contributed in gold). The balance shall be paid to all members in proportion to their quotas, the payment to be made in a member's own currency.

22. **Offices and Depositories.**—The principal office of the Fund shall be located in the territory of the member having the largest quota, *viz.*, the United States of America according to the present quotas. Initially at least one half of the holdings of the Fund of gold and assets other than a member's own currency shall be held in the depository designated by the member with the Fund's principal office and at least 40 per cent. shall be held in the four members having the next largest quotas, *viz.*, the United Kingdom, the Union of Soviet Socialist Republics, China and France.

23. **Transitional Period.**—The Introduction (Section I) of this Article states that the Fund is not intended to provide facilities for relief or reconstruction or to deal with international indebtedness arising out of the war.

In the post-war transitional period members may maintain and adapt, and certain members may introduce, restrictions on payments and transfers for current international transactions, but such restrictions shall be withdrawn as soon as members find it possible to settle their balances of payments without undue recourse to the Fund, with the general aim of restoring the comparative freedom and facility of international payments and the maintenance of exchange stability. Not later than three years after the Fund starts operations and every year thereafter the Fund shall report on the restrictions still in force and five years after the Fund's beginning and every year thereafter any member retaining restrictions shall consult the Fund about their further retention. The Fund may make representations to members in the matter and if the differences are not satisfactorily composed, the member may be liable to compulsory withdrawal. The Fund shall, however, recognise that the post-war transitional period will be one of change and adjustment and shall give the member making a request occasioned thereby the benefit of any reasonable doubt.

24. **Withdrawal from Membership.**—Any member may withdraw from the Fund at any time by giving notice in writing, the withdrawal to become effective when such notice is received.

25. The Articles contain specific provisions for settlement of accounts with members withdrawing, temporary suspension and liquidation of the Fund and for introducing amendments to Articles of Agreement, for interpretation of the provisions and Explanation of Terms.

26. **Final Provisions.**—The Agreement shall enter into force when it has been signed on behalf of governments having sixty-five per cent., of the total quotas, but shall in no event enter into force before May 1, 1945. It shall

remain open for signature at Washington on behalf of the Governments of the countries represented at the Conference until December 31, 1945.

Initial Determination of Par Values.—The initial determination of par values will be the most important of the first questions to be determined in connection with the inauguration of the Fund. The Fund shall notify the members when it expects to be in a position to begin exchange transactions and shall request them to communicate within thirty days the par values of their currencies based on the rates of exchange prevailing on the sixtieth day before the entry into force of the Agreement. The par value so communicated shall be accepted for the purpose of the Agreement unless within ninety days of its being received either the member or the Fund notify that this par value is unsatisfactory. In that case the member and the Fund shall arrive at a suitable par value by agreement. In the event of failure to agree, the member shall be deemed to have withdrawn from the Fund when the period of ninety days expires.

When the par value of a member's currency has been established as above, the member shall be eligible to buy from the Fund the currencies of other members to the full extent permitted in this Agreement, provided that the Fund has begun exchange transactions. The Fund shall begin exchange transactions, when it may determine, after members having sixty-five per cent. of the total quotas have become eligible to purchase the currencies of other members, but not before the end of war in Europe.

27. **Schedules.**—The Articles of Agreement have five schedules relating to A. Quotas, B. Provisions with Respect to Repurchase by a Member of its Currency held by the Fund, C. Election of Executive Directors, D. Settlement of Accounts with Members Withdrawing, and E. Administration of Liquidation.

CHAPTER III.—THE INTERNATIONAL MONETARY FUND: REVIEW OF DISCUSSIONS

28. The general method followed by the Conference in the progress of work was to start with the statements and provisions contained in the Joint statement by Experts on the Establishment of an International Monetary Fund and the alternative or additional proposals evolved as a result of expert discussion at Atlantic City, and to consider these together with fresh alternatives and additions suggested throughout by the different delegations. Meanwhile the technical experts were also engaged in completing the formal structure of the Fund in the numerous matters of organisation, management, operation and liquidation which had not been provided for or sufficiently dealt with in the Joint Statement of principles. The order in which the different subjects were taken up by the Conference depended to some extent upon the measure of divergence of views or interests revealed. The simpler and less controversial questions were disposed of first, and the more contentious and difficult issues were resolved or taken up at later stages. In regard to the Fund, the more important questions on which there was some considerable discussion and initial difference of views, were the following:—

(1) The amendments proposed by the Indian Delegation to the primary objectives of economic policy as stated among the purposes of the Fund, already referred to above;

(2) The quotas of member countries which define their subscriptions, voting rights and share in management generally;

(3) The size and composition of the Executive Directorate of the Fund;

(4) Changes in par values or exchange rates of currencies;

(5) Uniform changes in the gold values of all member currencies;

(6) The range of variation of the exchange rates of currencies from parity;

(7) The rate at which the credit facilities allowed by the Fund might be used up by member countries, and the waiver of conditions;

(8) The position of major world currencies like sterling and the dollar in relation to the operations of the Fund, and the repurchase by a member of its currency held by the Fund:

(9) The scale and system of charges to be levied by the Fund on advances of foreign exchange to member countries (or on the Fund's holdings of local currencies);

(10) The special treatment of countries devastated by the war in respect of gold subscriptions and other matters;

(11) The location of the head office of the Fund and the distribution of gold among the depositories, etc., etc.

It is proposed to indicate here the broad lines of divergence of views disclosed on these and a few other subjects, and the manner and measure of agreement embodied in the final provisions of the Articles of Agreement arrived at by the Conference, with special reference to the point of view presented or pressed by the Indian Delegation on those outstanding matters in which they interested themselves more particularly

29. **The Purposes of the Fund: Development of Economically Backward Countries.**—It has been mentioned above that the Indian delegates at Atlantic City proposed an amendment to the purposes of the International Monetary Fund suggesting the inclusion among them of assistance in the fuller utilisation of the resources of economically backward countries. Three alternatives were proposed for Article I (Purposes and Policies of the Fund), Section 2 of the Joint Statement which reads: 'to facilitate the expansion and balanced growth of international trade and to contribute in this way to the maintenance of a high level of employment and real income, which must be a primary objective of economic policy.' Of these the alternative proposed by the Indian Delegation was the only one recommending any change of substance. It read as follows:

'The purposes of the International Monetary Fund are: to facilitate the expansion and balanced growth of international trade, to assist in the fuller utilisation of the resources of economically underdeveloped countries and to contribute thereby to the promotion and maintenance in the world as a whole of a high level of employment and real income which must be the primary objectives of economic policy.' The discussion on this subject in the Conference accordingly centred on the Indian amendment.

The discussion on the subject (in Committee 1 on the 4th July forenoon) opened with a short speech by Sir Jeremy Raisman who explained that the intention underlying the particular emphasis in the Indian amendment on the development of the resources of economically underdeveloped countries was to bring out more clearly the content of the prime objectives of economic policy in relation to backward agricultural economies, while the existing phraseology appeared to connote a more limited application to the conditions of highly industrialised countries. The proposal had fairly widespread support, to start with, among the delegates on the grounds that it furnished a general guiding principle for the operation of the Fund and made the description of the primary objectives of economic policy more complete. On the other hand, it was opposed on the ground that it went beyond the scope of the Fund and introduced objectives which were not germane to its main purpose. The Fund aimed at the short-term objective of the maintenance of exchange stability and the promotion of international trade thereby, while the utilisation of the resources of underdeveloped countries was a long-term objective which could not properly be achieved through its instrumentality. Sir Shanmukham Chetty, in explaining more specifically the justification of the Indian amendment and replying to some of the criticism advanced against it, pointed out that it was not the aim of the Indian Delegation to propose any extension of the scope or obligations of the Fund, but that our sole aim was to make more full and more explicit the statement of the primary objectives of economic policy which the authors of the Joint Statement had enunciated. He elaborated this point of view before the Drafting Sub-Committee to which the question was referred and explained that phrases like 'full employment' and 'the maintenance of real income' made small appeal to the vast populations of Eastern countries like India and China which had yet to attain certain minimum standards of living before they could maintain them, and which looked to the development of their resources rather

than to 'full employment', ordinarily so understood, as their broad economic objective. He said that we recognised that the Fund itself could not directly promote the objective but no more could it directly promote the end of full employment, and either of these aims could only be indirectly facilitated by generally keeping them in view in the operations of the Fund. After our point of view had been explained there was general support for the introduction of the words 'promotion and' before 'maintenance in the world as a whole of a high level of employment and real income' as also for some reference to the development of resources and productive powers *of all member countries*. Nevertheless the changes suggested by the Indian Delegation were unacceptable to the United Kingdom and the United States delegates, as well as to some others, who regarded the objective of levelling up of economically underdeveloped countries as belonging more appropriately to the functions of the other international institution proposed to be set up, namely the International Bank for Reconstruction and Development. The Drafting Committee was guided in its decision to exclude specific reference to the needs of economically backward countries by the general principle that the declaration of the purposes and policies of the Fund must be in agreement with the real objectives and powers of the Fund as stated in the provisions contained in its constitutional document and with the means put at its disposal. We were fully cognizant of these considerations, and, our aim, indeed, was to secure a certain weightage in some of the operative provisions relating to use of the Fund's resources, to the recommendations to members on economic policy, and to quotas and management, on the score of this amendment to the purposes of the Fund. As it was, the proposal went through some further stages of discussion and finally emerged from the special Committee on Unsettled Problems and Commission I as follows:—

'The purposes of the International Monetary Fund are: to facilitate the expansion and balanced growth of international trade, and to contribute thereby to the promotion and maintenance of high levels of employment and real income and to the development of the productive resources of all members as primary objectives of economic policy.'

30. **Purposes of the Fund: Convertibility of a portion of Sterling Balances.**—The Indian Delegation had also proposed during the course of deliberations of the Agenda Committee at Atlantic City, as already mentioned, the addition of a new purpose in the statement of purposes of the International Monetary Fund (Joint Statement, Article I), *viz.*, 'to promote and facilitate the settlement of abnormal indebtedness arising out of the war.' The proposal came up for consideration in Commitee 1 on the 5th July (forenoon), and Sir Jeremy Raisman opened the discussion. He observed that the necessity of assisting the liquidation of abnormal war balances had been recognised in earlier versions of the international monetary proposals, but found no mention in the Joint Statement of Monetary Experts on the International Monetary Fund. No explanation was forthcoming of the reasons for this omission. There were, no doubt, important considerations which might have led to the exclusion of this question from the scope of the Fund's operations, and the Indian delegation did not underestimate the seriousness of the task which the new monetary institution proposed to be set up would undertake. Nevertheless he found it difficult to understand how any scheme which purported to regulate international monetary relations in the post-war world could ignore so fundamental a problem. He urged that they had also to take into account the extremely important considerations on the other side, which demanded an earnest attempt to find a solution of the question from the point of view of a country in India's position. The importance attached to this question in India was so great that it determined largely the public interest in, and attitude towards, the international monetary proposals. India expected to embark, after the war, on a programme of considerable industrial development and looked to the availability of her large sterling balances for the import of capital equipment in the immediate post-war years when the United Kingdom would be largely engaged in internal rehabilitation and reconstruction. If the problem was too large to be tackled fully by the Fund, the Fund should, nevertheless, provide some partial assistance towards

its solution We realised, of course, Sir Jeremy Raisman went on to say, that it was perhaps too large a question to be decided by the Committee and would have to be referred to the full Commission; nevertheless, we were bound to point out the vital significance to our economy of some provision for its solution in the framework of the monetary fund. The Egyptian delegate wholeheartedly supported the resolution moved by the Leader of the Indian Delegation, without adducing any additional reasons.

The delegate of the United States then explained the attitude of the United States on the question. The explanation was brief: it was perfectly clear to them, he said, that the Fund had already as much to do as any human institution could undertake and to ask it to do more would strain its resources beyond capacity. One of the delegates supporting the United States view remarked that the problem of pre-war and war-time indebtedness was too big a problem in itself to be dealt with by the Fund. It involved various questions of funding, adjusting and arrangements between the parties concerned and had to be treated separately from the machinery of the Fund. The representative of France generally alligned himself with the previous two speakers. The last to speak on the subject was the delegate from the United Kingdom. In their view, he said, the operations of the Fund would be water-logged if the large question of the liquidation of war indebtedness were to be dealt with through its machinery. This question was, in the view of the United Kingdom Government, primarily one for settlement between the creditor and the debtor.

In view of the above discussion, the Chairman suggested that the alternative containing the Indian proposal might be referred back to the Commission without any decision or recommendation.

The question came up again in the meeting of Committee 1 on the 7th July (afternoon), in connection with the Amendment to the Purposes of the Fund moved by the Egyptain Delegation, which read as follows:—

'The Purposes of the International Monetary Fund shall be: To assist a multilateral clearing of accumulated war balances.'

The Egyptian delegate in his speech supporting the amendment explained that there were three ways by which a country in the position of Egypt could acquire access to the capital resources necessary for the purpose of purchasing imports of essential capital goods in the immediate post-war period for reconstruction and development:—

(1) Exporting more than importing;
(2) Allowing conversion of the sterling assets into other currencies;
(3) Exporting gold.

As regards (1), they had to allow time for conversion of war to peace production and meet the most urgent domestic needs first, and the capacity to produce an ordinary export surplus in this manner was, therefore, limited. The transfer contemplated in the second alternative would, to some extent, depend upon the success achieved in establishing a fully functioning international trade machinery. The third alternative, again, had limitations based upon the stocks of gold available.

Mr. A. D. Shroff on behalf of the Indian Delegation supported the Egyptian amendment. After referring to the objections to the Indian proposal expressed on behalf of the United States and the United Kingdom delegations, *viz.*, that the multilateral convertibility of the accumulated sterling balances would unduly overload the resources of the Fund and that this convertibility was a matter for bilateral arrangement between the parties concerned, Mr. Shroff proceeded to point out that public opinion and feeling on this question in India was unanimous and extremely strong and unless some method were devised to facilitate the solution of what was an extremely important matter for us the ultimate attitude of our country towards the International Monetary Fund would be largely influenced by the decision of the Conference on this question. He concluded his Speech (Appendix) as follows:—

'We plead for the assistance of the Fund spread over a period of years to secure multilateral convertibility of at least a portion of our foreign balances. I

say this because with the long standing relationship between India and the United Kingdom and the traditional commercial ties between the two countries, I take it that a large portion of our sterling balances will ultimately be utilised in obtaining capital goods from the United Kingdom. I appreciate and very greatly sympathise with the difficulties of the United Kingdom now and in the early post-war period: owing to the unfortunate loss of valuable foreign investments and, due to other difficulties, it is not likely that the United Kingdom will be in a position to reach a stage of free convertibility for sterling at an early date. On the other hand, our country is pulsating with hopes and aspirations of large scale industrial development to raise the standard of living of four hundred millions of our population. We cannot, therefore, be asked to wait indefinitely till the United Kingdom has reached a stage when sterling would be freely convertible into other currencies. We therefore want conversion at least of a portion of our balances into other foreign currencies.'

The delegate from one of the European countries interposed a query as to whether the clearing balances of the occupied countries in Berlin would also be liquidated through the Fund. The United Kingdom delegate in the course of his reply to the Egyptian and Indian delegates remarked that his Government recognised the seriousness of the problem. The reference which had been made by the speakers from India and Egypt to the Keynes plan was evidence that this problem was a matter of anxious consideration to them. They did not, however, wish to ask that the business of the Fund should be complicated by an attempt to solve this problem. It would be a great misfortune for the Fund if it were to commence its business with a responsibility to liquidate these large balances. He, however, repudiated any suggestion that the balances of the occupied countries were on the same footing as those held by one member of the United Nations with another member; in the opinion of the Government of the United Kingdom these (sterling) obligations were to be respected in accordance with the long tradition of British international finance.

The United States delegate who spoke next, remarked that he was aware of the great seriousness of the problem and the difficulties under which the countries concerned were labouring to vitalize their post-war economic life. They (the United States) were somewhat embarrassed by the fact that in earlier versions there was some attempt to meet this problem. Their position in this respect, however, was like that of a young man who published a book before he had matured his ideas and who was later called to account for statements not fully considered. These statements (the Keynes and White Plans) were issued in all good faith for the very purpose of stimulating discussion and getting opinions from all over the world. A very careful study had now been made of the whole subject and it had become perfectly apparent that the magnitude of the problem was such that it could not be dealt with in the provisions of the Fund. The amount of war indebtedness far exceeded the total of the Fund. This Fund had a modest role, that of facilitating the return of international trade to normal conditions. It was not in a position to facilitate or make a settlement of these very large accumulations. He wished to call attention to the provisions of the Joint Statement which dealt with capital movements. It was not intended to prevent capital movements which were met out of a member country's own resources of gold and foreign exchange. Recognition was, therefore, given in this section to the need for the liquidation of past indebtedness by this means and to suggest anything beyond that would greatly mislead the world. We had to reconcile ourselves to the fact that the task before us was not easy and we could not cover all phases of the economic problem by means of the Fund.

The delegate for France supported the point of view of the representatives of the United Kingdom and the United States. He quoted the instance of huge quantities of francs issued as liquid assets and due by Germany and France and added that they had no intention to ask the Fund to help to collect that amount from Germany.

The Chairman, in concluding the discussion, remarked that the amendment moved by Egypt was similar to that moved by India. He pointed out that a general statement of purpose would not dispose of this problem and they had to treat of it in dealing with the transactions and the operations of the Fund. He suggested, therefore, that the Committee report the essence of the discussion to Commission I.

With a view to avoiding any possible misunderstanding of the approach of the Indian Delegation towards the question of multilateral convertibility of our sterling balances through the Fund, a new revised amendment to the purposes of the Fund was proposed by the Delegation and circulated before the meeting of the Commission. The revised amendment was as follows:—

'To facilitate the multilateral settlement of a reasonable portion of the foreign credit balances accumulated amongst the member countries during the war so as to promote the purposes referred to in subdivision 2, without placing undue strain on the resources of the Fund.'

The subject came up before the Commission in its third meeting on the 10th July (forenoon). Mr. Shroff, on behalf of the Indian Delegation, commending the above amendment to the Commission, explained that we realised that a very large proportion of the sterling balances must be liquidated through direct exports from the United Kingdom, but pointed out that the capacity of the United Kingdom to supply India's requirements of consumer and capital goods would be extremely limited during the immediate post-war years and it would assist the process of India's industrial development, and thereby the flow of international trade, if a reasonable proportion of the sterling balances could be converted into other currencies after the war. The delegate of the United States reiterated the reasons for their opposition to the proposal and was followed by Lord Keynes who made a statement on behalf of the Delegation of the United Kingdom, setting forth clearly that the settlement of these debts must be a matter between those directly concerned and that they did not intend to ask assistance in the matter from the International Monetary Fund, which was not meant to deal directly with war indebtedness. The French Delegation entirely supported the position taken up by the United States and the United Kingdom and referred again to the huge war balances accumulated by occupied countries against Germany, in respect of which they (the French Delegation) wished to make no request to the Fund. In sum, it would thus appear that the Conference objected in principle to the Fund concerning itself with the problem of war-time indebtedness on the grounds of (1) the magnitude of such indebtedness in relation to the size of the Fund; (2) the difficulties of increasing the size of the Fund; (3) the possible adjustments to which such indebtedness might be subject through settlement directly between the parties concerned, and (4) the limited character of the Fund's operations in its latest version. The Indian proposal moved in the Commission's meeting was not seconded and was lost. It had, however, evoked an unambiguous statement of the United Kingdom's position in the matter.

The speech of Mr. Shroff and the statements on behalf of the United States, the United Kingdom and the French Delegations are appended.

31. **The Quotas.**—Unlike the Keynes Plan and the different versions of the White Plan which proposed respectively the simple basis of the volume of international trade and a multiple basis of international trade, national income and fluctuations in balances of payments, for the determination of relative quotas of member countries, the Joint Statement by Experts issued in April 1944 omitted any reference to the question of the method by which quotas would be fixed. The omission was explained by the desire to avoid a decision on such a matter before opportunity had been taken to consult prospective participants.

though it was clearly recognised by this time that any basis for the determination of quotas must be complex and must take account of a variety of considerations.

It might be noted at the outset that, given the broad relative distribution of quotas, the absolute size of the Fund has been determined principally by the desire of the United States to limit her contribution to the resources of the Fund to the figure of her quota, *viz.*, 2,750 million United States dollars, and all discussion centering upon the absolute size of the Fund was dominated by the unwillingness of the United States Delegation to see the American contribution increased. The United States experts took the view that the aggregate quotas of all members as laid down in the agreement should be adequate to the purposes prescribed for the Fund, which, it is expressly provided for, is not intended to provide resources for relief and rehabilitation, or reconstruction and development, or for financing flights of capital, or for the clearing of war-time indebtedness.

As regards the determination of relative quotas, a satisfactory quota formula, it was explained, must give consideration to the multiple functions of the quota, which are (1) to determine the amount of a country's contribution of resources to the Fund, (2) to define the normal degree of access by a country to the foreign exchange pool of the Fund, and (3) to indicate a general measure of the economic significance of a country and of its relative voice in the management of the Fund. Hence factors like (i) national income which is a good index of a country's ability to subscribe resources to the Fund, (ii) a country's gold and dollar holdings which are the equivalent of international purchasing power and, therefore, particularly desirable assets for the purposes of an international monetary institution, and (iii) the magnitude of fluctuations in a country's balance of payments as indicated by import and export data, are regarded as relevant to the determination of quotas. Over and above these, 'the economic significance of a country in the world's economy is an intangible factor impossible to measure even approximately. It depends upon its material output, its foreign trade, its foreign investment, its economic and political strength. In the final determination of quotas, allowance should be made for this factor by an approximate adjustment in the results obtained from the formula which is employed. For this purpose it is suggested that an amount equal to 10 per cent. of the aggregate quotas should be reserved 'to increase the quotas of any countries whose quotas as determined by application of the formula seem inadequate', the formula giving the crude quota as being the sum of the following quantities:—

(a) 2 per cent. of the national income of 1939;

(b) 5 per cent. of the holdings of gold and gold convertible exchange as at January 1944;

(c) 10 per cent. of average annual imports 1934-38 inclusive;

(d) 10 per cent. of maximum variation in annual exports 1934-38 inclusive.

As part of the formula, however, it is also suggested that the total so determined be increased for each country by the percentage ratio of its average annual exports (1934-38) to its national income, so as to give 'special consideration, in this way, to those countries whose national income is particularly affected by international trade'; in other words, the degree of a country's dependence on international trade is recognised as a factor relevant to the measure of its participation in the affairs of the international monetary institution. In the actual statistical treatment of the elements in the formula, however, this last stage has been combined with adjustments in consequence of the intangible factor of 'economic significance' referred to above, and the precise determination of the Final result is not directly traceable to the terms of a definite formula.

The question of the quota was the last of the important and contentious issues to be taken up by the Conference. This was perhaps partly because of

the difficulty of arriving at an agreement among the biggest quota countries following the increase proposed by Russia in her quota from 900 to 1,200 million dollars, which also required some possible adjustments in the quotas of other countries. It was probably due also in part to the consideration that it was inadvisable to allow adjustments and changes to be proposed and made in open conference in this matter, after any fundamental accord arrived at outside the Conference, in view of the interminable difficulties of such a procedure. Consequently all activity towards influencing the decision on quotas took place behind the scenes of the Conference sessions. The day before the entire quota list was announced in a meeting of Commission I on July 15, the quotas of individual countries were communicated to the leaders and representatives of many of the delegations in special meetings with the Secretary of the United States' Treasury, Mr. Henry Morgenthau, Chairman of the Conference.

The Indian Delegation met Mr. Henry Morgenthau on Friday, the 14th July, at 3-10 P.M. Mr. Morgenthau announced the figure of the Indian quota as 400 million dollars, out of aggregate quotas of 8,800 million dollars for all the forty-four countries represented at the Conference. Mr. Harry White explained that they had, to start with, applied an economic formula but had made necessary adjustments in the determination of final quotas to allow for the general (economic and political) significance of a country, which could not be quantitatively represented by the exact terms of a formula, apart from the fact that essential data were not available for certain countries. Substantively, the Indian quota, in the American view was based on due recognition of India's economic significance.

Another stage before the announcement of the quotas was the setting up of a Quota Committee consisting of representatives of Belgium, Brazil, Canada, China, Cuba, Czechoslovakia, Egypt, the French Delegation, India, Mexico, New Zealand, Norway, the United Kingdom, Union of Soviet Socialist Republics and the United States (Chairman). The Committee which met immediately before the session of the Commission, recommended the quotas of forty-four nations totalling 8,800 million dollars (given as Schedule A to the Articles of Agreement) with reservations by China, Egypt, the French Delegation, India and New Zealand. The Delegate of the United States, in moving the adoption of the Quota Committee's report in the meeting of Commission I on July 15, explained that the early hopes of finding an objective scale for the fixation of quotas had not been realised and that the circumstances of different countries varied so widely that the consideration of many factors had been necessary. He stated that the original schedule based on an aggregate of 8 billion dollars for the original membership had been increased to 8,800 million dollars. Fifteen countries had participated in the work of the Committee on quotas and five had indicated their reservation; their task had been difficult but any errors which may have occurred in the final determination were not of intention, but were the result of the complexity of the problem.

After extended discussion the Commission voted to approve the report of the Quota Committee. Reservations were made or reconsideration was asked for by the delegates of Australia, China, Egypt, Ethiopia, the French Delegation, Greece, India, Iran, New Zealand and Yugoslavia. The Delegate of the Netherlands recorded his understanding that acceptance of a quota did not imply acceptance of any formula on which it may have been based.

Sir Jeremy Raisman on behalf of the Indian Delegation observed: 'I must say a few words in explanation of the fact that it has been necessary for us to make a reservation on behalf of India. The Delegation from India is fully conscious of the difficulties that had to be tackled in handling this complicated problem. At the same time they are aware of the strong feeling that prevails in their country that her economic importance should be duly recognised in any international economic institution of this character. It is not only a question of India's size, nor alone of her population, but that on purely economic criteria India is an important part of the world and will be an even more important part in the years to come. India is not disposed to argue about the absolute size of the quota in the manner in which some other countries might wish to do.

She is more concerned about her relative position among the countries that form the general set-up of the Fund. India feels that if due regard is given to her economic importance, there should be no danger of her failing to acquire a due share in the councils of the institution. She recognises that other considerations may have been applied in the determination of the final quotas in the case of certain countries but feels that this procedure should not result in such a distortion of the economic merits of the case. In conclusion, I have to express my agreement with the representative of the Netherlands that it is not only a question of the quota but it is the arrangements relating to the management of the Fund that are our concern.'

32. **Executive Directorate of the Fund.**—We now turn to a brief review of the general course of discussions on the arrangements in connection with the management of the Fund and the question of the executive directorate. These questions were dealt with by Committee 3 before the Commission took them up, and the Indian Delegation was represented on that Committee by Sir Chintaman Deshmukh.

It may be mentioned at the outset that a decision on the question of the composition of the executive body was twice sought to be obtained, first in the Committee and later in the Commission, before the quotas were announced. On both occasions the Indian Delegation raised a point of procedure, *i.e.*, whether it would be of any advantage to discuss the arrangements for the constitution of the executive directorate before the position in regard to quotas, which had a fundamental bearing on the former, was known. On both occasions the objection of the Indian Delegation against reversing what they represented was the normal order of dealing with the subjects had general support and was accepted by the Chair. The discussion of this question was accordingly taken up after the quotas had been announced.

The Joint Statement by Experts contained the following provision relating to the Management of the fund: 'The Fund shall be governed by a board on which each member will be represented, and by an executive committee. The executive committee will consist of at least nine members including the representatives of the five countries with the largest quotas.' The provisions finally agreed upon (1) increased the number of executive directors to not less than twelve, of whom five shall be appointed by the five members having the largest quotas; (2) reserved two executive directorships for election by the American Republics; and (3) provided for the representation on the Fund's Directorate after two years of the Fund's functioning, of the two largest creditor countries on current account, if not already represented thereon.

The measure of interest shown in the provisions relating to the Executive Directorate and allied matters is indicated by the fact that as many as eleven alternative proposals, or forms of proposals, were presented on this subject; to some extent, of course, this resulted from the fact that the text of the Joint Statement only made a bare reference to the framework of the executive body and did not include full provision for many incidental matters. One of the alternative proposals which fell through was made by the Indian Delegation suggesting the appointment of six out of twelve executive directors by the six members having the largest quotas. Another alternative which was rejected was proposed by the Egyptian Delegation recommending the reservation of one seat for 'countries of the Middle East', this expression being not defined. Cuba, a member of the American Republics, moved in the meeting of the Commission on July 15, the adoption of the alternative providing for the reservation of two seats for the Republics (in addition to a number of other matters) which had the implicit approval of the 'big five' having the largest quotas. The Indian Delegation wished at this stage to move their amendment increasing the number of automatically appointed directors to six, instead of five. The Chairman, however, ruled that the main proposition before the Commission would be taken up first and only if it were rejected, would the amendments be put to vote. Since the proposal of the Cuban Delegation was accepted, the alternative proposed by the Indian Delegation was considered as automatically lost.

We propose to refer here to the prospects of India in regard to membership of the Executive Directorate as they are affected by her relative quota and the rules relating to election of Executive Directors laid down in the Articles of Agreement. The total number of votes of forty-four member countries according to Schedule A of the Articles are 88,000 (one vote for every 100,000 dollars of the quotas) *plus* 11,000 (250 votes for each country), *i.e.*, 99,000. Of these, the number of votes of the five countries with the largest quotas which are entitled to appoint one executive director each, *viz.*, the United States, the United Kingdom, the Union of Soviet Socialist Republics, China and France are 62,500 *plus* 1,250, *i.e.*, 63,750. Again, the number of votes of twenty American Republics (including Phillipine Commonwealth) is 5045 plus 5000 (250 × 20) *i.e.*, 10,045. These two categories, therefore, make a total of 73,795 votes for seven executive directors, leaving a total of 25,205 votes to be cast (by 19 countries) for the five elective executive directors of which the number of Indian votes is 4250 or 16·86 per cent. The average number of votes available for each elective executive director is 5041. A procedure of one or more ballots is prescribed to ensure that no votes are wasted, in the sense of being cast for persons who are not elected, and that all votes are cast for one or other of the elected directors. No person who received less than nineteen per cent. of the total number of votes that can be cast (eligible votes), *viz.*, 4,789 according to the present Schedule A, shall be considered elected, the excess of votes cast for an elected person above twenty per cent. *viz.*, 5041, being redistributed in a subsequent ballot—without, however, splitting up the votes of any country—to other persons. Each time the person obtaining the lowest number of votes, if five persons are not elected, is eliminated provided that after four persons are elected, the fifth may be elected by a simple majority of the remaining votes (and shall be deemed to have been elected by all such votes).

We may for the purpose of demonstration proceed on the least favourable assumption (without regard to probability) that no other country votes for India in any ballot. No conceivable permutation or grouping of countries will avoid a certain number of votes being wasted in the limited sense of increasing the total votes cast for a person above nineteen per cent., and the aggregate of 799 votes in excess of 19,156 *viz.*, the minimum number of votes required for four elective directors at 19 per cent. (the total number of votes of the 18 countries other than India is 20,955 = 19,156 plus 799) will for the most part be used up in the 'excess' votes cast for the four elected directors. If on an average nearly 21 per cent. of the votes are cast for each person, there will be no other votes except India's left over after four persons have been elected. On the least favourable assumption made above, therefore, the election of India to the executive directorate under the present rules and the present distribution of quotas is assured.

There will be one difference, however, between the elected and appointed or permanent *members*. As mentioned in the summary of provisions given in the last chapter, initially at least forty per cent. of the holdings of the Fund of gold and assets other than a member's own currency shall be held in the depositories designated by the four members *with the next largest quotas after the United States* (which shall designate a depository for at least fifty per cent. of the Fund's holdings). The Fund may, however, hold such assets in other designated depositories selected by it.

One of the provisions included in the Final Act which was actively supported by the Indian Delegation, was that the Executive Directors should (reside at and) function in continuous session at the principal office of the Fund. We felt that a country such as India, situated at such a distance from the principal office of the Fund, might be excluded from effective participation in the counsels of the Fund, unless the Executive Directors were available on the spot for regular consultation and decision, and that that was the only means of preventing undue concentration of all executive powers in the single hands of the Managing Director which might be extremely dangerous having regard to the nature and burden of responsibility involved. This position was generally accepted by the Committee

Another provision relating to the staff which was adopted at the instance of the Indian Delegation, supported by the United Kingdom Delegation, was that in appointing the staff the Managing Director should pay due regard to the importance of recruiting personnel on as wide a geographical basis as possible.

33. **Par Values of Currencies.**—The discussion on changes in the par values of currencies brought out the importance of discovering a proper mean between the ends of exchange stability and elasticity or of rigidity and flexibility of exchange rates. On this subject, the Joint Statement provided that changes in the par value of a member's currency should be made by the Fund only with the approval of a member country, and ordinarily on the latter's proposal, for the correction of a fundamental disequilibrium; that the Fund should not take exception to the domestic, social and political policies of the country applying for a change in the exchange value of its currency, and should take into consideration the extreme uncertainties prevailing at the time of the original fixation of currency parties. Furthermore, 'after consulting the Fund a member country may change the established parity of its currency provided the proposed change inclusive of any previous change since the establishment of the Fund does not exceed 10 per cent. In the case of application for a further change not covered by the above and not exceeding 10 per cent., the Fund shall give its decision within two days of receiving the application if the applicant so requests.' It was, however, felt by many countries that these provisions did not go far enough to provide the requisite degree of exchange flexibility. The United Kingdom delegation put forward an alternative provision which was adopted in substance which makes possible changes in exchange rates to any extent without the concurrence of the Fund and with only the obligation on the part of a member country to consult with the Fund, but gave the Fund power to declare a member ineligible to use its resources without compelling its immediate withdrawal from the system. The representative of the United Kingdom explained that the only safeguard which the draft of the Fund proposals in the Joint Statement by Experts offered in case of a difference of opinion between a member and the Fund was withdrawal by the member from the Fund. Withdrawal by a large participant might, however, be an extremely embarrassing step and it was as well, therefore, that some intermediate position should be created in which it would be possible to prevent a member from using the resources of the Fund without its having to withdraw from the organisation. The general aim was to provide a more workable structure and flexible framework than the crude system of outright expulsion under the original proposals. Certain countries made it clear beyond any doubt that they regarded the measure of exchange flexibility provided for in the alternative proposed as absolutely essential to enable them to adhere to any such organisation as the Fund. They referred to the experience of the 'thirties' when depreciation became inevitable in order to alleviate economic distress and for the avoidance of grave internal disorders. The United States delegates appreciated the political character of this problem having regard to the importance attached by countries to national sovereignty in the fundamental matter of the external value of their currency. On the other hand, some other countries pleaded for a greater degree of exchange stability. The matter was referred to the Commission and after being considered again by the Special Committee the following provisions were adopted and appear in the Articles of Agreement of the Fund:—

IV 5. (a) A member shall not propose a change in the par value of its currency except to correct a fundamental disequilibrium.

(b) A change in the par value of a member's currency may be made only on the proposal of the member and only after consultation with the Fund.

(c) When a change is proposed, the Fund shall first take into account the changes, if any, which have already taken place in the initial par value of the member's currency as determined under Article XX, Section 4. If the proposed change, together with all previous changes, whether increases or decreases,

(i) does not exceed ten per cent. of the initial par value, the Fund shall raise no objection,

(ii) does not exceed a further ten per cent. of the initial par value, the Fund may either concur or object, but shall declare its attitude within seventy-two hours if the member so requests,

(iii) is not within (i) or (ii) above, the Fund may either concur or object, but shall be entitled to a longer period in which to declare its attitude.

(d) Uniform changes in par values made under Section 7 of this Article shall not be taken into account in determining whether a proposed change falls within (i), (ii), or (iii) of (c) above.

(e) A member may change the par value of its currency without the concurrence of the Fund if the change does not affect the international transactions of members of the Fund.

(f) The Fund shall concur in a proposed change which is within the terms of (c) (ii) or (c) (iii) above if it is satisfied that the change is necessary to correct a fundamental disequilibrium. In particular, provided it is so satisfied, it shall not object to a proposed change because of the domestic, social or political policies of the member proposing the change.

A word of explanation appears necessary in regard to sub-section (e) above. This was incorporated in accordance with the wishes of the Union of Soviet Socialist Republic Delegation who explained that all their foreign trade was conducted in foreign currencies and payment was made and received in foreign currencies; their foreign trade was transacted on the basis of the prices of the international market expressed in foreign exchange and the internal level of prices did not affect the external prices of goods sold by the Soviet Union and therefore their international transactions. Accordingly, changes in the external parity of the Soviet currency could not affect the amounts of her exports and imports or her international transactions and could not therefore be regarded as competitive exchange depreciation (or appreciation); they only served an internal book-keeping purpose.

34. **Uniform Changes in par values of currencies.**—The question of uniform changes in the gold values of all currencies was the subject of a somewhat lengthy debate. It will be recalled that the Keynes Plan provided for a change in the gold value of 'Bancor',—the proposed international currency unit, by means of a four-fifths majority, while the original United States Treasury Plan contained no corresponding provision as regards the proposed new unit of account the 'Unitas.' Such a provision was, however, inserted in the Joint Statement in the following terms:—

'Article IV—Section 5. An agreed uniform change may be made in the gold value of member currencies provided that each member country having 10 per cent. or more of the aggregate quotas approves.'

The alternative sponsored by the United Kingdom and the United States Delegations in the Conference proposed that the Fund may make uniform proportionate changes *by majority vote* (*viz.*, by majority of voting power) in the par values of the currencies of all the members, provided each such change is approved by every country which has 10 per cent. or more of the aggregate quotas (*i.e.*, the United States, the United Kingdom and Russia according to the present quotas). The general justification for some provision for altering the gold value of all currencies together under an international monetary system is, of course, obvious from the history of the 'thirties' when this question was decided in practice through a process of trial and error and unilateral currency depreciation by different countries at different times, resulting in grave injury to trade, production and employment everywhere. The aim of such a provision would be to entrust to an international institution the task of determining the relation between gold and currencies as a whole from the point of view of world welfare, and there was no difference of opinion as regards its desirability in general. The formula proposed for effecting a uniform change, however, implied

that such a change could be made at the option of the three largest members. This raised strong opposition on the part of the small countries. An amendment was moved to the effect that the support of a majority of the *number of member countries* should be required for a change in the gold value of all currencies as well as a majority of the voting power and the votes of members with 10 per cent. or more of the quota. It was argued in support of this amendment that a change of this fundamental character should not be left to be made with the approval only of the largest countries but should be made with the approval of a majority of the member countries of the Fund. A compromise proposal suggested that the support of at least one-third of the number of member countries should be required over and above a majority of voting power and the approval of countries with 10 per cent. or more of the total quota. This proposal appeared to have a considerable measure of support at the time that it was presented but no definite agreement was forthcoming and the question was referred to the Special Committee; the proposal which emerged from that Committee and was accepted by the Commission made an attempt to meet the point of view of the small countries by adding a proviso to the section as follows:—

'The par value of a currency shall, however, not be changed under this provision if, within seventy-two hours of the Fund's action, the member informs the Fund that it does not wish the par value of its currency to be changed by such action.'

35. **Range of Variation of Exchange Rates.**—A matter of some importance was the determination under the Fund scheme of substitutes for the old 'gold points' or the range between which exchange rates would be allowed to fluctuate without the Fund's intervention. Three sections of the Joint Statement made a reference to this subject in the following terms:—

'Article IV. .....all transactions in member currencies shall be at rates within an agreed percentage of parity;' 'IX. Obligations of Member Countries. 1. Not to buy gold at a price which exceeded the agreed parity of its currency by more than a prescribed margin and not to sell gold at a price which falls below the agreed parity by more than a prescribed margin; 2. Not to allow exchange transactions in its market in currencies of other members at rates outside a prescribed range based on the agreed parities.'

Two issues were involved in a decision on this subject: In the first place, should the Fund prescribe only the maximum permissible limits of variation from parity, leaving the individual countries free to determine separately for themselves the range of their exchange rates within the maximum limits or should the Fund determine the precise degree of fluctuations allowed for member countries' exchange rates within the maximum spread? In the latter case, should the Fund prescribe the limits of exchange variation separately in respect of each currency against every other currency, taking into account the relevant factors of distance between countries, the time taken in, and costs of transmission of, trade bills, etc? As soon as the issues were thus stated and became sufficiently clear, it was decided that the Fund could only lay down a general maximum margin for changes in exchange rates, and individual countries might be left free to regulate the variations of their exchanges within the prescribed over-all limits. The special position of forward transactions and the need of a further margin for them in relation to spot transactions was also recognised. The relevant provisions incorporated in the Final Act are as follows:—

Article IV. Section 2. Gold purchase based on par values.—The Fund shall prescribed a margin above and below par value for transactions in gold by members, and no member shall buy gold at a price above par value plus the prescribed margin, or sell gold at a price below par value minus the prescribed margin.

'Section 3. Foreign exchange dealings based on parity.—The maximum and minimum rates for exchange transactions between the currencies of members taking place within their territories shall not differ from their parity, (i) in the case of spot exchange transactions, by more than 1 per cent., and (ii) in the

case of other exchange transactions, by a margin which exceeds the margin for spot exchange transactions by more than the Fund considers reasonable.'

A second question which called for decision in this connection related to the character and measure of responsibility of the member countries to ensure that the provisions of the Agreement in this matter were enforced in their territories. The precise nature of the problem presented is made clear by the following provisions proposed under one of the alternatives:

'Each member undertakes, through appropriate measures authorised under this Agreement, not to permit within its jurisdiction an appreciation or depreciation of the exchange value of its own currency in terms of gold beyond the range prescribed under (a) above. A member whose monetary authorities in fact freely buy and sell gold within the prescribed range, to settle international transactions, shall be deemed to be fulfilling this undertaking.

Exchange transactions in the territory of one member involving the currency of any other member, which evade or avoid the exchange regulations prescribed by that other member and authorised by this Agreement, shall be an offence in the territory of all members.'

It was pointed out during the discussion on these proposed clauses, in which the Indian Delegation participated, that where a country imposed exchange regulations, *it* should be responsible for enforcing them and not the country where the transactions took place; for the liability of transactions completed in good faith to be made an offence, through a violation of the exchange regulations of any other member country, might seriously disturb trade. It was, however, explained by the United States Delegation that the intention of the proposed additions to the text of the Agreement was only to ensure reasonable co-operation of member countries with one another in the reciprocal observance of their exchange regulations. The following provisions were accordingly incorporated in the final Articles of Agreement:

Article IV. Section 4(b). Each member undertakes, through appropriate measures consistent with this Agreement, to permit within its territories exchange transactions between its currency and the currencies of other members only within the limits prescribed under Section 3 of this Article. A member whose monetary authorities, for the settlement of international transactions, in fact freely buy and sell gold within the limits prescribed by the Fund under Section 2 of this Article shall be deemed to be fulfilling this undertaking.

Article VIII. Section 2(b). Exchange contracts which involve the currency of any member and which are contrary to the exchange control regulations of that member maintained or imposed consistently with this Agreement shall be unenforceable in the territories of any member. In addition, members may, by mutual accord, co-operate in measures for the purpose of making the exchange control regulations of either member more effective, provided that such measures and regulations are consistent with this Agreement.

36. **Rate of Utilisation of Quotas and Waiver of Conditions.**—Another subject of some lively controversy related to the rate at which the quotas of member countries should be allowed to be used up. One of the conditions on which, according to the Joint Statement by Experts, a member should be entitled to buy another member's currency from the Fund in exchange for its own currency, was that the Fund's total holdings of the currency offered (after having been restored, if below that figure, to 75 per cent. of the member's quota) had not been increased by more than 25 per cent. of the member's quota during the previous twelve months and did not exceed 200 per cent. of the quota; it was, however, added that the Fund might in its discretion and on terms which safeguarded its interests waive the above condition. Broadly, two alternative proposals were made in respect of this provision, both having the effect of liberalising the extent and range of the draft by a member on the resources of the Fund. One alternative suggested that 33 1/3 per cent. be substituted for 25 per cent. in the above condition so that a member could draw upon its quota in larger instalments or at a quicker rate when required. The other alternative proposed that the total holdings of the Fund in the currency of a member

country initiating the purchase shall not exceed 125 per cent. of the quota in the first, 150 per cent. of the quota in the second, 175 per cent. of the quota in the third year of the operations of the Fund in that particular currency and 200 per cent. thereafter. The effect of this provision would be that if a member refrained from using its quota during the first one or two or three years it could draw upon the quota to the extent of 50 and 75 per cent. in the second and third years and 100 per cent. in the fourth year and in every year thereafter. It would make possible the building up of idle balances by admitting the principle of carry-over implied in the formula. The proposal was supported on the ground that certain countries required much greater latitude and elasticity in the use of their quota owing to the extreme seasonal disturbances, the large variations of prices and the severity of incidence of the business cycle in their case, and the consequently wider amplitude of fluctuations of their balances of payments; the waiver clause was not an altogether satisfactory way of meeting this kind of situation. Also the Fund had a safeguard against abuse of these comparatively liberal provisions in the right to make recommendations to a country regarding the proper use of its resources and to declare a member country ineligible for access to the Fund if its recommendations were not accepted. On the other hand, it was argued that the Fund had discretion to give larger advances wherever necessary, that its discretionary powers in this respect should be sufficient in most circumstances, that the limitation of a draft on quotas to the maximum extent of 25 per cent. every year was desirable and necessary and, indeed, that the policy of conservation of resources and of building up the reputation and credit of the Fund was in the collective interest of the debtor countries themselves. If the Fund were too liberal in disbursing funds, the debtor countries which were late in claiming assistance might find the resources of important and vital currencies exhausted by the demands of those who were at the head of the queue. It was, however, recognised that due regard should be paid to the exceptional circumstances of certain countries making requests for advances, arising out of the conditions of their trade and balance of payments. Accordingly, in the final provisions incorporated in the Articles of Agreement a proviso was inserted in the section regarding the waiver of conditions empowering the Fund to waive the prescribed terms 'especially in the case of members with a record of avoiding large or continuous use of the Fund's resources'; also, 'in making a waiver it (the Fund) shall take into consideration periodic or exceptional requirements of the member requesting the waiver.'

37. **Repurchase by a member of its currency held by the Fund.**—A provision of some interest is contained in Article V, Section 7(b) relating to repurchase by a member of its currency held by the Fund, sub-section (b) (ii) being of particular significance to countries which conduct a large proportion of their foreign trade in terms of foreign currencies such as the sterling or dollar and which maintain their foreign exchange balances in these currencies.

The problem which these provisions are intended to solve is this. Currencies like the dollar and sterling are important media of international transactions and are customarily employed in settlement of contracts over a wide field of trade in preference to many national currencies and it is not the aim of the Fund Agreement to undermine the use of the major world currencies in international trade. Now under the general mechanism of the Fund it would be unobjectionable for a country (say India) to build up dollar balances if it had a surplus balance of payments with the United States (and a favourable balance of payments on the whole) since no draft on the dollar resources of the Fund or of other countries is involved by this means. Nor is there any objection from the point of view of the Fund if a country acquires dollars in trade with a third country (*viz.*, country other than the United States) and utilises them to *make payments* (i) in the United States, or (ii) in other countries: in the two cases the use of the dollars avoids respectively a drain on the Fund's resources of dollars or the use of other resources of the Fund. But if a country acquires dollars from countries other than the United States (*viz.*, third

countries) and *builds up dollar balances*, its favourable balance of payments would have drained dollar resources from other countries or from the Fund. In such a case, the use of the dollar as an ordinary medium of international payments might indirectly result in the American contribution to the Fund (*viz.* dollars in the Fund) being drawn upon to finance the deficit of one country (say Brazil) in her trade with a third country (say India), and to assist the latter to accumulate idle dollar reserves. It was felt desirable that this result should be generally avoided by securing in substance that the Fund's holdings of a country's currency are used to meet its favourable balance of payments or the final liabilities of other countries to it through the repurchase provisions in sub-section 7(b)(i). The fullest use of the holdings of a country's currency with the Fund can, however, only be ensured if the repurchase provisions are extended to cover the entire increment of dollars (or other currency) resulting from a country's favourable balance of payments in dollars (or other currencies) with countries other than the United States (or other relevant country) and it is the aim of sub-section 7(b)(ii) to secure this. The conditions stated in sub-section (c), however, limit the scope of these provisions so that they shall not be used either to deplete a country's monetary reserves or its currency holdings with the Fund below certain substantial limits (75 per cent. of the quota) or to require the surrender to the Fund of currencies of which the Fund already had a relatively substantial holding (75 per cent. of the quota).

The broad objective of these provisions, therefore, is to safeguard, within certain limits and up to a defined extent, the resources of the Fund against being diverted to the accumulation of idle balances of foreign exchange, without interfering directly with the free use of the major currencies for financing the flow of current international trade.

38. **The Scale and System of Charges.**—The charges to be levied on members on the holdings of their currency with the Fund in excess of the quota, *i.e.*, for purchasing foreign exchange from the Fund, was another question which disclosed sharp differences of points of view in the Committee.

It was explained in support of the level and the scheme of charges that in practice there would be a continuing trend for the Fund's holdings of currencies in strong demand to decrease, and of those in light demand to increase, and that it was very desirable to ensure that the countries selling currencies to the Fund should have sufficient inducement to repurchase them so that the balance and strength of the system might be maintained. The provisions of the Fund had to contain adequate safeguards against undue and excessive resort to its facilities and against short-term borrowing being converted into long term loans; for, unless the operations of the Fund were conducted on a sound business basis it would run into trouble and the weak debtor countries which took objection to the high rates of charges would be the principal sufferers in consequence. On the other hand, it was argued that the Fund was not a profit-making organisation, that it did not need to collect large reserves and that the limitation of the use of its facilities was amply safeguarded by the various provisions under which a member country could be declared ineligible to use the resources of the Fund in the event of abuse. The description of the rates as originally presented as minimum rates, was also the subject of criticism, and the countries which feared the application of still higher rates against them pressed for some fixation of maximum rates or the conversion of the proposed minimum rates into normal rates to be levied uniformly in respect of all countries. Reference was also made during the discussion on charges, in which the Indian Delegation took part, to the bearing of tariff policy on the smooth functioning of the Fund. It was pointed out in particular that unless the United States altered its tariff policy and became a great importing as well as exporting country, the efforts of other countries to set their house in order would only lead to restriction; the scheme of charges proposed placed the entire burden of adjustment on the debtor, whereas, if the objective of expansion was to be attained, there was as strong a case for penalising the countries whose currencies grew scarce as for penalising those whose currencies accumulated with the Fund. Altogether, many shades

of difference of opinion were heard in the Committee and it was agreed to report these to the Commission.

At the very outset of the consideration of the question in the Commission, one of the delegates reiterated the objections to the very principle of the charges being levied exclusively on the debtor countries and suggested the application of some kind of penalty against the creditor as well, declaring that the proposals in their existing form were contrary to the purposes of the Fund. The delegate of the United States observed during his reply that the aim of the Fund was to stabilise currencies and unless some deterrents were placed on overdrafts the Fund would get out of balance. He explained that in their view the rates were very moderate and the United States did not propose to give up its right to adopt such rates as it thought fit to adopt; that they regarded the rates as absolutely necessary in the interests of the functioning of the Fund; and, indeed, that without acceptance of the principle of charges and increase in them according to the period of overdraft, the United States Delegation could not go ahead with the Fund. The United Kingdom delegate generally supporting the stand taken up by the United States Delegation, remarked that the principle of the charges seemed to them reasonable and necessary and, so far as could be humanly foreseen, the scale proposed was appropriate. Their sole reservation applied to the lack of symmetry in the provision for changes in the scale in the United States proposals, according to which the rates could be increased at the discretion of the Fund but could not be reduced. The Commission adjourned at this stage and at its next meeting the draft of the United States proposals was approved with the omission of the description of the scale as minimum charges and the inclusion of the United Kingdom amendment that the rates may be changed (*in either direction*) by a three-fourths majority of the total voting power.

39. **Treatment of Enemy-occupied Countries in the Fund.**—Amendments were introduced in respect of two provisions of the Articles of Agreement relating to the Fund to give more favoured treatment to countries whose territories had been devastated or damaged by enemy occupation and required large-scale reconstruction and rehabilitation. One of the proposals which was supported, among others, by the U. S. S. R. and French delegates, related to the reduction by 25 per cent. of the gold contribution (as part of their quota subscriptions) of countries devastated by the war. It was rejected after some debate by the Commission on July 15 (afternoon). Another proposal related to the modification of the provisions regarding the repurchase of a country's currency held with the Fund in favour of enemy-occupied countries, to the effect that 'in the case of members whose metropolitan territories have been occupied by the enemy, gold newly produced during the five years after the entry into force of this Agreement from mines located within their metropolitan territories shall not be included in computations of their monetary reserves or of increases in their monetary reserves.' This was adopted by the Commission.

40. **Offices and Depositories.**—In regard to the principal office of the Fund, which according to the Articles of Agreement is to be located in the territory of the member country having the largest quota, *viz.*, the United States of America, the United Kingdom Delegation recorded a reservation. In the opinion of the British Government, as announced by the delegate of the United Kingdom in the meeting of Commission I on July 18, the location of the headquarters of the Fund should have reference to the location of other international bodies that will be established. No final decision on this matter should, therefore, be taken pending the general determination of the framework of these other bodies. The same reservation applied to the headquarters of the Bank. The United Kingdom Delegation urged that all such inter-related questions should be left for inter-Governmental decision at a later date.

Criticism was also voiced by a number of delegates in the course of discussion of certain proposed provisions which sought to lay down the distribution of gold among depositories. It was urged that no hard and fast formula should be laid down limiting the discretion of the Executive Directors in the matter of location of the assets of the Fund, particularly gold, as rigid regulation in this

respect would involve unnecessary shifting of gold in order that certain percentages should be adhered to. Considerations of safety and convenience would naturally guide the Executive Directors in the matter, which should be left to their responsibility and judgment. In the draft of the provision as finally approved the word 'initially' was added at the beginning so as to restrict the application of the prescribed distribution of gold and assets other than a member's own currency to the time of initiation of the Fund.

41. **Family Remittances and Current Transactions.**—Under the article relating to Explanation of Terms XIX (h) (4) 'moderate remittances for family living expenses' are specifically included among current transactions. At an earlier stage this reference related to 'moderate *immigrant* remittances.' The delegate of the Union of Soviet Socialist Republics proposed its deletion on the ground that it would be difficult to distinguish immigrant remittances which were capital transactions from those which were current transactions, and that the position might be left to be determined by the Fund in agreement with the members concerned. The Indian Delegation in common with a number of other delegations opposed the amendment having regard to the large number of Indian labourers serving in foreign lands and the assurance which the specific inclusion of this provision would afford in respect of their interests. It was pointed out in the course of the discussion that obligations to the family are of more than a contractual nature and should be placed at least on a par with contractual obligations. The specific inclusion of moderate remittances for family living expenses under the concept of current transactions was accordingly accepted by the Commission in its meeting on July 19 with the elimination of the limiting word 'immigrant'.

42. **Furnishing of Information.**—On the question of furnishing the fullest information to the Fund in respect of a country's economic and financial position and its balance of payments, with due regard to the varying ability of different members to supply such information, there was no serious difference of opinion among the general body of the delegations. Opposition, however, came from the U. S. S. R. Delegation which submitted a much smaller list (excluding *inter alia* data regarding the production of gold) than the list proposed and finally included in the Articles of Agreement. The Commission accepted the larger list as being necessary not only for the efficient conduct of the Fund's operations, but also for the general and reciprocal improvement of the state of economic and financial knowledge of member countries, the U. S. S. R. delegation recording its opinion that the information should be confined to the minimum necessary for the effective discharge of the Fund's duties. This proviso accordingly qualifies the list of data included under Article VIII, section 5, on the furnishing of information.

43. **Fixing initial par values.**—During the discussion on the subject of fixing initial par values, the Indian Delegation pointed out that, as they were members of the Sterling Bloc, unless previous intimation was given by the United Kingdom of their decision regarding the fixing of the par value of sterling in terms of gold, India will not have sufficient time to notify the Fund of the par value of its currency. The Indian Delegation further pointed out that it should be appreciated by the Committee that a change in the *de facto* par value of sterling may necessitate a change in the par value of the rupee and therefore it was absolutely essential that India should have sufficient notice of the par value of sterling notified by the United Kingdom to the Fund. The United Kingdom delegate assured both India and all members of the Sterling Bloc that previous intimation of the par value of sterling will be given to members of the Sterling Bloc.

CHAPTER IV

A. International Bank for Reconstruction and Development: Summary of Articles of Agreement

44. The Articles of Agreement of the International Bank for Reconstruction and Development comprise eleven articles and two schedules. The articles relate, among other matters, to purposes, membership in and capital of the

Bank, general provisions relating to loans and guarantees, operations, organisation and management, withdrawal of membership and suspension of membership or operations, final provisions regarding inauguration of the Bank etc.

45. **Purposes.**—The purposes of the International Bank are to assist in the reconstruction and development of territories of member countries by facilitating the investment of capital for productive purposes, including the restoration of war-damaged economies, the reconversion of productive facilities to peace-time needs and the encouragement of the development of productive resources in less developed countries; to promote private foreign investment by means of guarantees or participation in loans and other investments made by private investors, and to supplement private investment by direct loans for productive purposes out of its own capital, funds raised by it and its other resources; to promote the long-range balanced growth of international trade and the maintenance of equilibrium in balances of payments by encouraging long-term international investment, thereby assisting in raising productivity, the standard of living and conditions of labour in member countries, etc., etc.

46. **Membership.**—The original members of the Bank shall be those members of the International Monetary Fund which accept membership in the Bank, and other members may be admitted later by the Bank.

47. **Capital.**—The Bank shall have an authorised capital of 10,000 millions in terms of United States dollars of the weight and fineness in effect on July 1, 1944, divided into 100,000 shares of 100,000 dollars each available for subscription only by members. The capital may be increased by a three-fourths majority of the total voting power.

The original members shall subscribe the *minimum* number of shares of the Bank set forth in Schedule A, totalling 9,100 million, the remaining portion of the capital stock being reserved for subscription by other members. According to the distribution of share capital laid down in the schedule, the fourteen largest holders of shares (in terms of United States dollars) will be the United States 3,175 million, the United Kingdom 1,300 million, the Union of Soviet Socialist Republics 1,200 million, China 600 million, France 450 million, India 400 million, Canada 325 million, Netherlands 275 million, Belgium 225 million, Australia 200 million, Czechoslovakia and Poland 125 million each, Brazil 105 million and the Union of South Africa 100 million. Twenty per cent. of a member's subscription shall be paid or subject to call as needed by the Bank for its operations and the remaining eighty per cent. shall be callable only when required to meet the obligations (on account of defaults by borrowers) arising out of participation in direct loans out of funds borrowed in a member country or out of guarantees by the Bank of loans made by private investors through the usual investment channels.

The liability on shares shall be limited to the unpaid portion of the shares.

The subscription of 20 per cent. shall be paid in gold or United State dollars and in the currencies of the members (or their securities) as follows: 2 per cent. in gold or United States dollars and the remaining 18 per cent. in the currency of a member; when a call is made out of the remaining 80 per cent. of the liability, referred to above, payment may be made in gold, in United States dollars or in the currency required by the Bank for the purpose of discharging obligations for which the call is made. The 2 per cent. payable as above shall be paid within sixty days of the Bank's beginning operations; enemy-occupied countries may postpone payment of one-quarter of the amount thus payable for five years, and other postponements may be allowed under certain emergency circumstances. Not less than 10 per cent. altogether of the price of the share shall be called by the Bank within one year of its beginning operations, but not more than 5 per cent. of the price of the share shall be called within any period of three months.

The value of holdings of the Bank of certain currencies of member countries derived from the original subscriptions to the Bank, shall be maintained through the member paying to the Fund, or the Fund returning to the member, an

amount of its currency equivalent to the reduction or the increase respectively in the par value of a member's currency held by the Fund. This provision may be waived by the Bank in the event of a uniform proportionate change in the par values of all currencies brought about by the International Monetary Fund.

The shares of the Bank shall not be pledged or encumbered in any manner and shall be transferable only to the Bank.

48. **General Provisions relating to Loans and Guarantees.**—The Bank's resources and facilities shall be used for the benefit only of members for development and reconstruction alike, but with special regard so far as conditions and terms of loans are concerned to lightening the financial burden of reconstruction.

The treasury, central bank, stabilization fund or other similar fiscal agency shall be a member's agency for dealing with the Bank.

The total amount outstanding of guarantees, participations in loans and direct loans made by the Bank shall not be increased beyond the sum of the unimpaired subscribed capital, reserves and surplus of the Bank.

The Bank may guarantee, participate in, or make loans to any member or any political subdivision thereof and any business, industrial, and agricultural enterprise in the territories of a member provided that (i) when the loan is not made directly to the Government of a member, the Government or central bank or other comparable agency fully guarantees the repayment of the principal and the payment of interest etc., on the loan, (ii) the borrower would be unable otherwise to obtain the loan on reasonable conditions, (iii) the project is recommended after careful study by a competent committee, (iv) due regard is paid to the capacity of the borrower or guarantor to repay, and to the interests of the members as a whole as well as the borrowing member, (v) the Bank receives suitable compensation for its risk, (vi) the loans are for the purpose of specific projects of reconstruction or development.

The Bank shall impose no conditions as to the expenditure of the proceeds of a loan in any particular member country or countries. The borrower shall be permitted to draw on the proceeds which shall be credited to his account with the Bank, only to meet expenses in connection with the project as they are incurred.

49. **Operations: Methods of making or facilitating loans.**—The Bank may make or facilitate loans satisfying the general conditions specified above (i) by direct loans, or participations in loans out of its own funds, (ii) by direct loans, or participation in loans, out of funds borrowed in a member country, and (iii) by guaranteeing private loans in whole or in part,—in the last two cases with the approval of the member or members in whose markets the funds are raised and in whose currency the loan is denominated and with its or their agreement that the proceeds may be freely exchanged for the currency of any other member.

50. **Operations: Availability and transferability of currencies.**—Currencies paid into the Bank as part of the twenty per cent. subscription of members subject to call in the ordinary course as described in para. 47 above, shall be loaned, and currencies received by the Bank from borrowers or guarantors in payment on account of principal of direct loans made with the aforesaid currencies, shall be reloaned or exchanged for other currencies only with the approval of the members whose currencies are involved; provided, however, that if necessary, after the Bank's subscribed capital has been entirely called, such currencies shall, without restriction by the members be used or exchanged for other currencies required to meet the Bank's obligations or liabilities on various accounts.

The Bank may use without restriction currencies received in repayment of principal of direct loans made out of funds borrowed in a member country, to make amortization payments or to anticipate payment or repurchase of any of the Bank's obligations.

All other currencies available to the Bank shall be used without restriction by the members whose currencies are offered. Currencies raised in the markets

of members by borrowers on loans guaranteed by the Bank shall also be free from restriction as to their use.

51. **Operations: Provision of currencies for direct loans.**—The Bank shall furnish the borrowing member with such currencies of *other* members as are needed for expenditures in their territories. In exceptional circumstances when local currency required for the purposes of the loan cannot be raised by the borrower on reasonable terms, the Bank may provide the borrower with that currency, and if the project gives rise indirectly to an increased need of foreign exchange, with gold or foreign exchange up to the amount of the borrower's local expenditure. Also, in exceptional circumstances, when the spending of a loan in a member's territory gives rise to increased need for foreign exchange by the member, the Bank may repurchase with gold or foreign exchange a part of that member's currency thus spent.

52. **Operations: Payment Provisions.**—The terms and conditions of the loans and guarantees shall be determined by the Bank. In respect of loans made out of funds borrowed in a member country, and guarantees of private loans, the rate of the Bank's commission shall be not less than 1 and not more than 1½ per cent. per annum on the outstanding portion of a loan during the first ten years of the Bank's operations, and may be reduced thereafter in respect of the existing as well as future loans, if a reduction is justified by the state of reserves; in respect of future loans the rate of commission may also be increased if this appears advisable.

All loan contracts shall stipulate the currency or currencies for payments to the Bank, though such payments may be made in gold or, if the Bank agrees, in a different currency to that stipulated.

Loans made out of the 20 per cent. capital subscribed by the members towards the Bank's loan operations, shall be repaid, and interest thereon paid, in the currency loaned, unless the member concerned agrees otherwise.

If a member suffers from an acute exchange situation, the Bank may relax the conditions of payments with respect to the whole, or part, of the annual service so as to (i) accept service payments on the loan in the member's own currency for periods up to three years, upon appropriate terms regarding the maintenance of the foreign exchange value of that currency and its repurchase, or so as to (ii) modify the terms of amortization or extend the life of the loan, or both.

The amount of commission received by the Bank in respect of loans out of borrowed funds and guarantees of private loans shall be set aside as a special reserve in liquid form against the liabilities of the Bank. The first charge in respect of losses arising out of defaults on loans shall be against this reserve, after which the other reserves, surplus and capital and the unpaid subscriptions shall be drawn upon in order.

The Bank shall have the power to buy and sell securities which it has issued, guaranteed, or invested in, with the approval of the member in whose markets the transactions are to be effected; to borrow any member's currency with its approval; by a three-fourths majority of the total votes, to buy and sell other securities for the investment of the special reserve and to deal with any person, partnership, association, corporation or other legal entity in the territories of any member.

53. **Organization and Management.**—Many of the provisions in regard to the organisation and management of the Bank are similar to those in respect of the Fund and need not be mentioned in this summary.

The Bank shall have a Board of Governors, Executive Directors, a President and staff. The Board of Governors shall consist of one governor and one alternate appointed by each member to serve for five years but to be eligible for reappointment. The Board shall at least hold an annual meeting. Each member shall have 250 votes plus one additional vote for each share of stock held. There shall be twelve Executive Directors who need not be Governors and of whom five shall be appointed by the five members having the largest

number of shares, and seven shall be elected by the remaining members; the executive directors shall be appointed or elected every two years. Each director shall appoint an alternate with full power to act for him when he is not present.

There shall be an Advisory Council to advise the Bank on matters of general policy, of not less than seven persons selected by the Board of Governors including representatives of banking, commercial, industrial, labour and agricultural interests, and with as wide a national representation as possible. The Council shall meet at least annually.

In deciding on loan applications or guarantees relating to matters directly within the competence of any general international organisation or public international organisations having specialised responsibilities in fields related to the Bank and participated in primarily by members of the Bank, the Bank shall give consideration to the views and recommendations of such organisations.

The principal office of the Bank shall be located in the territory of the member holding the greatest number of shares. The Bank may also establish regional offices and determine the location of, and the areas to be covered by, each regional office, which shall be advised by a regional council.

The provisions in respect of depositories are similar to those in the Fund.

In any distribution of net income, the first charge shall be that of a payment up to two per cent. to each creditor member on the basis of the average amount outstanding of the loans made out of the currency corresponding to its capital subscription, referred to above in the provisions relating to 'capital'; the balance shall be paid to all members in proportion to their shares. Payments to each member shall be made, as far as possible, in its own currency.

54. **Withdrawal from Membership.**—Any member may withdraw from the Bank at any time by transmitting a notice in writing to the Bank, the withdrawal to become effective when such notice is received. There are provisions for suspension of membership and compulsory withdrawal by a member after a period of suspension.

Any member which ceases to be a member of the International Monetary Fund shall automatically cease after three months to be a member of the Bank unless the Bank by three-fourths of the total voting power has agreed to allow it to remain a member.

The Articles contain specific provisions, as do the Fund articles, for settlement of accounts with governments ceasing to be members, for suspension of operations and settlement of obligations, for amendment of the Articles of Agreement and for interpretation as well as for the status, immunities and privileges of the Bank and its officers.

55. **Final Provisions.**—The Agreement shall enter into force when it has been signed on behalf of governments with minimum subscriptions of not less than sixty-five per cent. of the total of $9,100 million given in Schedule A, but in no event before May 1, 1945. It shall remain open for signature at Washington on behalf of the governments of the countries represented at the Conference until December 31, 1945.

The Articles of Agreement have two schedules relating to A. Subscriptions and B. Election of Executive Directors.

B. THE INTERNATIONAL BANK: REVIEW OF DISCUSSIONS

56. It has been explained in Chapter I above that the work of Commission II was more complicated in some respects than that of Commission I because of the smaller amount of preparatory work on the proposals which the Commission had to examine. The handicap in this respect was, however, by no means considerable. The main work in connection with the Bank proposals before the Conference took place had been done by the United States Treasury experts, who issued a Preliminary Draft Outline of a Proposal for a United Nations Bank for Reconstruction and Development in November 1943, and by the United Kingdom officials who communicated the conclusions of their critical examination

of the United States proposals to the United States Treasury in April 1944; in arriving at these conclusions the United Kingdom officials had had the advantage of discussions with the technical representatives of India and the Dominions. This was followed by an exchange of notes and views between the United States and United Kingdom experts which resulted in considerable progress towards agreement on fundamentals and on the numerous complicated technical provisions of the International Bank, thereby greatly facilitating the work of the Conference. The sessions of Commission II were fewer, generally shorter in duration and showed more expedition than of Commission I. Wide disagreement was disclosed only on a few large matters and the discussions were brief and yielded relatively quick conclusions. A reference is made in the following paragraphs to the more significant matters debated in the Commission meetings.

57. **Name.**—First, as regards the designation of this international monetary institution as a "Bank". In so far as we can speak of capital subscriptions, loans, guarantees, issue of bonds, etc., the new financial institution may have some apparent claim to the name of Bank, but the type of shareholders, the nature of subscriptions, the exclusion of all deposits and of short-term loans, the non-profit basis, are foreign to the accepted nature of a Bank. It was however largely by accident born, so to speak, with the name 'Bank', and 'Bank' it remains, mainly because no completely satisfactory alternative name could be found in the dictionary for this unprecedented institution.

58. **Purposes.**—The purposes of the international Bank are further elucidated by the following passages from the foreword by Mr. Henry Morgenthau, Jr., Secretary of the Treasury, to the Preliminary Draft Outline of a Proposal for a Bank for Reconstruction and Development of the United and Associated Nations issued in November 1943:

'One of the important international economic and financial problems which will confront the United Nations at the end of the war will be the unprecedented need for foreign capital. In the areas devastated by war or plundered and ravaged by the enemy, factories and mines, public utilities and railroads, public buildings and public works will have to be repaired or restored. In most of the United Nations, industries now producing war goods will require capital for reconversion to peacetime production and in many areas of the world, large investment will be needed for industrial, agricultural and commercial development.

Countries whose productive capacities have been seriously impaired by war will find that their industries cannot provide the capital goods and their people cannot provide the savings required for investment in reconstruction. Most non-industrial countries will of necessity be dependent upon foreign capital to acquire the funds for the purchase of machinery, equipment and other capital goods necessary for development. And even in those countries where a considerable part of the need for capital can be met locally, there will be some need for foreign capital to supplement the funds that can be raised at home.'

'The primary aim of such an agency should be to encourage private capital to go abroad for productive investment by sharing the risks of private investors and by participating with private investors in large ventures. The provision of some of the capital needed for reconstruction and development, where private capital is unable to take the risk, is intended to remain secondary in the operations of such an agency. It should, of course, scrupulously avoid undertaking loans that private investors are willing to make on reasonable terms. It should perform only that part of the task which private capital cannot do alone.'

The general character and principle of the Bank's constitution is clearly brought out by the following passage from a memorandum of the United Kingdom officials, dated the 13th April 1944:

"This seems an appropriate division of functions, which will appeal to the world as just and right. Only those countries with an investable surplus can put up the money; but that is no reason why they should also run all the financial risks, perhaps quite substantial, of reconstructing the devastation of war and developing the more backward countries. The great increase of trade arising

from the granting of the loans would benefit all alike, and it is just and right that the resulting risk should be shared all round. This should be within the capacity, divided, of course, in appropriate proportions, of all participating countries. It embodies both the justice and the commonsense of the underlying situation.'

Perhaps we may also quote a few lines descriptive of the underlying idea of the Bank from the remarks of the reporting delegate of Commission II in presenting its report to the Executive Plenary Session on July 21, 1944.

'It is unquestionable that a loan granted to one country from the resources or with the guarantee of the Bank will not be advantageous to that country alone. The loan will enable it to reconstruct its economy destroyed by war, or inadequately developed. As a result, activity is fostered, needs and requirements are satisfied, purchasing power is increased, new markets are born, and indirectly, by means of the general flow of international trade, all countries finally benefit by the improvement brought about in the particular country which has obtained a loan through the Bank. In this way, capital which is now in excess in certain countries will again be put to productive use and will find its reward not only in the rate of interest on remunerative investments, but also, indirectly, in the promotion of world prosperity which rich countries themselves need in order to maintain and develop their own well-being.'

There was some discussion of the purposes of the International Bank with a view to having the aim of development recognised as on a par with that of reconstruction in the statement of purposes as well as in the operative provisions of the Articles of Agreement. This was conceded specifically in Article III, Section 1 regarding 'Use of resources' which provides that 'the resources and facilities of the Bank shall be used . . . . . with equitable consideration to projects for development and projects of reconstruction alike.'

Reference has been made above in the course of the review of discussions relating to the purposes of the Fund to the attempt of the Indian Delegation to have a mention of the development of the resources of economically underdeveloped countries included among the incidental purposes of the Fund, a proposal which was negatived mainly on the ground that this function fell appropriately within the province of the International Bank. A specific mention of 'the encouragement of the development of productive facilities and resources in less developed countries' was accordingly incorporated among the purposes of the Bank at the instance of the Indian Delegation.

A purpose of the International Bank is stated to be 'to arrange the loans made or guaranteed by it in relation to international loans through other channels so that the more useful and urgent projects, large and small alike, will be dealt with first.' Having regard to the possibility that the claims of small projects located in small countries but vital and important to their economies might be overlooked in favour of large projects having an appearance of greater urgency, the words 'large and small alike' were inserted at the instance of one of the Latin American Delegations.

59. **Membership.**—The membership of the Bank is open only to members of the International Monetary Fund and any member which ceases to be a member of the Fund shall, in the ordinary course, automatically cease after three months to be a member of the Bank unless the Bank by a three-fourths majority decides to allow it to retain membership. The two international monetary institutions are thus to be treated as more or less complementary in respect of membership. Broadly, this is intended to secure that countries which do not undertake the obligations of membership of the international monetary system, primarily the obligation to maintain reasonable stability of the exchange value of the currency and to consult with other countries in regard to changes therein, should be excluded from the special benefit resulting from the joint effort of members of the Fund towards encouragement of the flow of long-term international investment through the International Bank. This stipulation will be understood in the light of the destructive incidence of exchange instability on international investment during the 'thirties.

60. **Capital.**—The total subscriptions to the International Bank were made equal to the total quotas of the Fund until the announcement towards the end of the Conference that the Union of Soviet Socialist Republics Government had agreed to raise their subscription from 900 million to 1,200 million dollars which raised the total amount of subscriptions allotted to countries which are entitled to be original members of the Bank to 9,100 million dollars. For the rest, the distribution of share capital among countries is approximately the same as that of quotas under the Fund, the only changes from the quota distribution under the Fund in respect of the first fourteen countries being that the subscriptions of the United States, China and Canada are higher by 425 million, 50 million and 25 million dollars respectively while the subscription of Brazil is lower by dollars 45 million than their corresponding Fund quotas.

In the opinion of the United States technical experts, a Bank for Reconstruction and Development with a subscribed capital of 10 billion dollars would have sufficient resources to facilitate and encourage the maintenance of an adequate volume of international investment in the post-war period, particularly having regard to the facts that the average annual volume of international investment by the leading industrial countries in the period from 1923 to 1937, was somewhat less than 3 billion dollars a year, a considerable part of which was generally not raised in the capital market and not all of which would fulfil the Bank's conditions for loan or guarantee, and, further, that a considerable part of all international investment will continue to be made directly through the usual investment channels without recourse to the Bank.

61. **Limitation of Guarantees and Loans.**—A reference has been made in the above summary of the Articles to one of the general provisions relating to loans and guarantees of the Bank, namely, that the total amount outstanding in respect of guarantees, participation in loans and direct loans made by the Bank shall not exceed 100 per cent. of the unimpaired subscribed capital, reserves and surplus of the Bank. There were alternatives proposed suggesting the increase of this limit to 150 per cent. in view, it was argued, of the inadequacy of the subscribed capital for the long-term loan requirements of the post-war world and the consequent narrowness of the 100 per cent. ratio. On the other hand, however, it was explained that enthusiasm for the objective on which all were agreed *viz.*, an abundant and free flow of international investment should not make the Conference overlook the limitations of the machine which it was proposed to set up: the International Bank was an agency for encouraging and promoting through its guarantees the use of the investor's money, and the investor wanted to be certain of amortisation and interest; the guarantee afforded by the Bank must be a first class support and great care was necessary to ensure that the Bank's credit was not impaired; the International Bank was a great experiment in a new field of international co-operation and must maintain a very high standard, for any setback would be irretrievable; the figure of the Bank's operations suggested in the Articles of Agreement was high enough to start with and was capable of increase, if experience suggested that an increase was necessary. In the light of this discussion, the Commission accepted the 100 per cent. limit.

62. **Loan Committees.**—There was some discussion of the advisability of including experts and members of the technical staff of the Bank on the Loan Committees appointed by the Bank and required to report on loan applications. The United Kingdom Delegation expressed their opposition to such inclusion, which was, however, supported by the United States Delegation and, among others, by the Indian Delegation and was accepted by the Commission after discussion.

63. **Voting.**—The question of the distribution of voting rights in the Bank was also settled after some debate in the Commission. The basis of voting according to the number of shares held plus 250 votes *viz.* the same as under the Fund, was proposed by one of the Latin American delegations and was supported by the delegation of a small European country. It was opposed on the ground that the voting rights should correspond to the capital subscriptions without any element of loading in favour of small countries, as the International Bank was a real bank and must run on business lines as much as possible.

The United States Delegation, however, supported the same basis of voting for the Bank as for the Fund and the proposal of weighting the capital distribution by a uniform additional 250 votes was accordingly adopted.

64. **Executive Directors.**—Reference has been made above to the provision in the Articles of Agreement of the Bank prescribing the appointment of twelve executive directors of whom five shall be appointed, one by each of the five members having the largest number of shares. Sir Chintaman Deshmukh on behalf of the Indian Delegation proposed that the number of directors to be appointed by members having the largest quotas should be raised to six. He pointed out, as the Chairman of the Indian Delegation had explained in respect of our corresponding amendment to the provisions of the Fund, that the Indian Delegation felt that their country was entitled by virtue of her relative economic importance among the nations of the world, to a permanent place on the executive directorate of the Bank. The original proposal presented by one of the delegations from Latin America than the number of automatically appointed directors shall be five and of elected directors seven, was, however, carried and the Indian amendment was automatically lost.

65. **Relationship of the Bank to other International Organisations.**—One of the provisions which was agreed upon after a somewhat prolonged consideration was that regarding the relationship of the Bank to other international organisations. The provision as finally agreed lays down that the Bank shall give consideration, in deciding on loan applications, to the views and recommendations of international organisations (*e.g.*, the Commission on Food and Agriculture, the International Labour Office etc.) having specialised responsibilities. The representative of the Interim Commission on Food and Agriculture, however, supported an alternative provision which would have required the submission of each individual loan application for specific consideration and recommendation by the other international organisations concerned, and would accordingly have given them greater influence in determining individual loan applications and would correspondingly have limited the discretion of the Bank in the matter. It was generally appreciated that it would be useful to the Bank to consult organisations like the Food and Agriculture Commission on certain projects and have the benefit of their informed advice and, generally, that the Bank *by itself* could not safeguard its funds as well as it could *with* the assistance and collaboration and the advantage of the knowledge and skill of specialised international organisations. But the concensus of opinion was that the Bank's discretion should not be unduly fettered as it alone was in a position to view all applications together and to achive the proper co-ordination of the allocation of its resources, which specialised organisations interested in cultivating special fields of activity might not achieve through their recommendations. Accordingly, the work of specific examination and investigation of projects was entrusted to the Committees to be set up by the Bank itself.

66. **War-devastated Countries.**—In regard to the time of payment of subscriptions for the Bank, it is laid down in the Articles that the two per cent. payable on each share in gold or United States dollars shall be paid within sixty days of the date on which the Bank begins operations 'provided that any original member of the Bank whose metropolitan territory has suffered from enemy occupation or hostilities during the present war shall be granted the right to postpone payment of one-half per cent. until five years after that date.' The originally proposed wording of this proviso only made a reference to enemy occupation; the words 'or hostilities' were inserted in consideration of the position of a country like the United Kingdom which had suffered extensive damage without occupation by the enemy. Also Article III, Section 1(b) provides that 'for the purpose of facilitating the restoration and reconstruction of the economy of members whose metropolitan territories have suffered great devastation from enemy occupation or hostilities, the Bank, in determining the conditions and terms of loans made to such members, shall pay special regard to lightening the financial burden and expediting the completion of such restoration

and reconstruction'. The adoption of these provisions was strongly opposed by a few enemy-occupied countries of Europe, including France, though it was supported by others including the Union of Soviet Socialist Republics. The opposition was based on the sense of keen disappointment voiced by France regarding the measure of assistance afforded in the Articles of Agreement of the two international monetary institutions to countries which had been devastated by war. It was argued that the acceptance of this concession for enemy-occupied countries, which gave two little, and its incorporation in the Articles of Agreement, would be misunderstood in the occupied countries, which might read to much into it, and the French Delegation begged the Conference to respect the proviso. On the other hand, it was explained by the United States delegates (adverting also to the refusal of Commission I to accept a postponement of gold payment in respect of the Articles of the Fund similar to that proposed in the first of the above two provisions), that none of the delegates would accept anything that interfered with the soundness of the projects, and, at any rate, these provisions offered a public recognition in an official document that some countries had suffered more than others as a result of the war.

67. **Suspension of Membership and Operations.**—The terms on which a shareholder might withdraw, namely, those on which the repurchase of its shares might be arranged, as well as its interest in operating profits and losses be terminated (while retaining its obligation to contribute towards losses in so far as they are not met out of past accumulated reserves), are detailed in a separate Article, which also prescribes the manner of distribution of the assets of the Bank. It was remarked during the final stages of the consideration of the Articles relating to the Bank that more attention had been paid to the obsequies of the Bank than to its natal provisions, but there was general concurrence that the elaborate care bestowed on drafting the terms of a member's withdrawal as well as the distribution of the Bank's assets in the event of permanent suspension of operations was useful and necessary. Also, a redeeming feature of the long and complicated provisions is that they relate to 'the orderly realization, conservation and preservation of its (the Bank's) assets and settlement of its obligations' rather than to liquidation—a term appropriately reserved for lesser mortals like ordinary corporations!

C. SUMMARY OF AGREEMENT OF BRETTON WOODS CONFERENCE

68. On July 21, the Co-ordinating Committee was constituted with the following membership:—

Fred M. Vinson (United States of America), *Chairman.*

Arthur de Souza Costa (Brazil).

Ping-Wen Kuo (China).

Robert Mosse (French Delegation).

Eduardo Suarez (Mexico).

A. A. Arutinunian (Union of Soviet Socialist Republics).

Lionel Robbins (United Kingdom).

The full Committee met at 2 P.M. on July 21 and approved for submission to the Conference the following:—

Summary of Agreement of the Bretton Woods Conference

This Conference at Bretton Woods, representing nearly all the peoples of the world, has considered matters of international money and finance which are important for peace and prosperity. The Conference has agreed on the problems needing attention, the measures which should be taken, and the forms of international co-operation or organization which are required. The agreement reached on these large and complex matters is without precedent in the history of international economic relations.

I. **The International Monetary Fund.**—Since foreign trade affects the standard of life of every people, all countries have a vital interest in the system of exchange of national currencies and the regulations and conditions which

govern its working. Because these monetary transactions are international exchanges, the nations must agree on the basic rules which govern the exchanges if the system is to work smoothly. When they do not agree, and when single nations and small groups of nations attempt by special and different regulations of the foreign exchanges to gain trade advantages, the result is instability, a reduced volume of foreign trade, and damage to national economies. This course of action is likely to lead to economic warfare and to endanger the world's peace.

The Conference has therefore agreed that broad international action is necessary to maintain an international monetary system which will promote foreign trade. The nations should consult and agree on international monetary changes which affect each other. They should outlaw practices which are agreed to be harmful to world prosperity, and they should assist each other to overcome short-term exchange difficulties.

The Conference has agreed that the nations here represented should establish for these purposes a permanent international body, *The International Monetary Fund*, with powers and resources adequate to perform the tasks assigned to it. Agreement has been reached concerning these powers and resources and the additional obligations which the member countries should undertake. Draft Articles of Agreement on these points have been prepared.

II. **The Bank for Reconstruction and Development.**—It is in the interest of all nations that post-war reconstruction should be rapid. Likewise, the development of the resources of particular regions is in the general economic interest. Programs of reconstruction and development will speed economic progress everywhere, will aid political stability and foster peace.

The Conference has agreed that expanded international investment is essential to provide a portion of the capital necessary for reconstruction and development.

The Conference has further agreed that the nations should co-operate to increase the volume of foreign investment for these purposes, made through normal business channels. It is especially important that the nations should co-operate to share the risks of such foreign investment, since the benefits are general.

The Conference has agreed that the nations should establish a permanent international body to perform these functions, to be called *The Bank for Reconstruction and Development*. It has been agreed that the Bank should assist in providing capital through normal channels at reasonable rates of interest and for long periods for projects which will raise the productivity of the borrowing country. There is agreement that the Bank should guarantee loans made by others and that through their subscriptions of capital all countries should share with the borrowing country in guaranteeing such loans. The Conference has agreed on the powers and resources which the Bank must have and on the obligations which the member countries must assume, and has prepared draft Articles of Agreement accordingly.

The Conference has recommended that in carrying out the policies of the institutions here proposed special consideration should be given to the needs of countries which have suffered from enemy occupation and hostilities.

The proposals formulated at the Conference for the establishment of the Fund and the Bank are now submitted, in accordance with the terms of the invitation, consideration of the governments and people of the countries represented.

CHAPTER V

Other measures for International Monetary and Financial Co-operation

59. It has been mentioned in Chapter I above that Commission III on 'Other Means of International Financial Co-operation' was set up in the second plenary session of the Conference on July 3, at the same time as the other

two Commissions, and the proposals submitted to the Commission related to three general fields of interest, *viz.*, 'Silver', 'Enemy Assets etc.' and 'Economic and Financial Policy'. Accordingly three *ad hoc* Committees were appointed to consider the proposals and make recommendations to the Commission. At its final meeting on July 20, 1944, the Commission received the reports of the three Committees and arrived at its conclusions in respect of them.

The Commission adopted the report of Committee 1 on 'The Use of Silver for International Monetary Purposes' and recommended that the following statement be included in the Final Act:—

'The problems confronting some nations as a result of the wide fluctuation in the value of silver were the subject of serious discussion in Commission III. Due to the shortage of time, the magnitude of the other problems on the agenda, and other limiting considerations, it was impossible to give sufficient attention to this problem at this time in order to make definite recommendations. However, it was the sense of Commission III that the subject should merit further study by the interested nations.'

70. The Commission adopted two measures placed before it by Committee 2 under the heading of 'Enemy Assets, Looted Property and Related Matters'.

The one was a recommendation reading as follows:—

'The United Nations Monetary and Financial Conference recommends the liquidation of the Bank for International Settlements at the earliest possible moment.'

The other was a resolution relating to Enemy Assets and Looted Property, and this was adopted in principle and a drafting committee was appointed to make certain language changes and empowered to prepare a resolution for presentation to the Plenary Session of the Conference. The Resolution as submitted by the drafting committee read as follows:—

WHEREAS

In anticipation of their impending defeat, enemy leaders, enemy nationals and their collaborators are transferring assets to and through neutral countries in order to conceal them and to perpetuate their influence, power, and ability to plan future aggrandizement and world domination thus jeopardising the efforts of the United Nations to establish and permanently maintain peaceful international relations;

WHEREAS

Enemy countries and their nationals have taken the property of occupied countries and their nationals by open looting and plunder, by forcing transfers under duress, as well as by subtle and complex devices, often operated through the agency of their puppet governments, to give the cloak of legality to their robbery and to secure ownership and control of important enterprises in the post-war period;

WHEREAS

Enemy countries and their nationals have also through sales and other methods of transfer, run the chain of their ownership and control through occupied and neutral countries, thus making the problem of disclosure and disentanglement one of international character;

WHEREAS

The United Nations have declared their intention to do their utmost to defeat the methods of dispossession practiced by the enemy, have reserved their right to declare invalid any transfers of property belonging to persons within occupied territory, and have taken measures to protect and safeguard property, within their respective jurisdictions, owned by occupied countries and their nationals, as well as to prevent the disposal of looted property in United Nations markets;

THEREFORE

It is resolved that, in recognition of these considerations, the United Nations Monetary and Financial Conference

I. Takes note of and fully supports steps taken by the United Nations for the purpose of:

(a) uncovering, segregating, controlling, and making appropriate disposition of enemy assets;

(b) preventing the liquidation of property looted by the enemy, locating and tracing ownership and control of such looted property, and taking appropriate measures with a view to its restoration to its lawful owners.

II. Recommends that all Governments of countries represented at this Conference take action consistent with their relations with the countries at war to call upon the Governments of neutral countries

(a) to take immediate measures to prevent any disposition or transfer within territories subject to their jurisdiction of any

(1) assets belonging to the Government or any individuals or institutions within those United Nations occupied by the enemy; and

(2) looted gold, currency, art objects, securities, other evidences of ownership in financial or business enterprises, and of other assets looted by the enemy;

as well as to uncover, segregate and hold at the disposition of the post-liberation authorities in the appropriate country any such assets within territory subject to their jurisdiction.

(b) to take immediate measures to prevent the concealment by fraudulent means or otherwise within countries subject to their jurisdiction of any

(1) assets belonging to, or alleged to belong to, the Government or any individuals or institutions within enemy countries;

(2) assets belonging to, or alleged to belong to, enemy leaders, their associates and collaborators, and

to facilitate their ultimate delivery to the post-armistice authorities.

71. The Commission adopted the report of Committee 3 on 'Economic and Financial Policies, Exchange of Information, and other Means of Financial Co-operation.'

Of the matters considered by Committee 3 two were subject to specific discussion and vote by the Commission.

The first was a resolution combining the proposals submitted by Bolivia, Brazil, Chile, Cuba, and Peru. The text of the Resolution, which was adopted by the Commission, is as follows:—

WHEREAS

In Article I of the Articles of Agreement of the International Monetary Fund it is stated that one of the principal purposes of the Fund is to facilitate the expansion and balanced growth of international trade, and to contribute thereby to the promotion and maintenance of high levels of employment and real income and to the development of the productive resources of all members as primary objectives of economic policy;

WHEREAS

It is recognised that the complete attainment of this and other purposes and objectives stated in the Agreement cannot be achieved through the instrumentality of the Fund alone;

THEREFORE

The United Nations Monetary and Financial Conference recommends to the participating Governments that, in addition to implementing the specific monetary and financial measures which were the subject of this Conference, they seek, with a view to creating in the field of international economic relations

conditions necessary for the attainment of the purposes of the Fund and of the broader primary objectives of economic policy, to reach agreement as soon as possible on ways and means whereby they may best

(1) reduce obstacles to international trade and in other ways promote mutually advantageous international commercial relations;

(2) bring about the orderly marketing of staple commodities at prices fair to the producer and consumer alike;

(3) deal with the special problems of international concern which will arise from the cessation of production for war purposes; and

(4) facilitate by co-operative effort the harmonization of national policies of Member states designed to promote and maintain high levels of employment and progressively rising standards of living.

The second matter voted on was a resolution introduced by the Australian Delegation recommending that the Governments invited to accept the international Monetary Agreement be invited to enter, at the same time, into an undertaking to maintain high levels of employment in their respective countries. A motion for adoption of the Australian resolution was defeated.

(Sd.) A. J. RAISMAN, *Chairman.*

(Sd.) C. D. DESHMUKH.

(Sd.) T. E. GREGORY.

(Sd.) SHANMUKHAM CHETTY.

(Sd.) A. D. SHROFF.

(Sd.) B. K. MADAN, *Secretary.*

NEW DELHI;
The 10th February 1945.

APPENDIX

Speech of Mr. A. D. Shroff, Indian Delegate, before Committee 1, on July 7, 1944, in support of Egypt's Amendment to the Purposes of the International Monetary Fund relating to Sterling Balances.

I am in entire accord with Alternative H moved by the delegate for Egypt. In principle, it is the same as Alternative G which was moved the other day by the Leader of my Delegation, though our Alternative was more modestly worded. I am very sorry to say that the manner in which the proposal of the Indian Delegation was received by this Committee and the very casual fashion in which it was disposed of have caused serious disappointment to this side of the Committee. In general, two criticisms of the Indian proposal were made on behalf of the United States of America and the United Kingdom Delegations. The delegate from the United States of America raised the objection that if the foreign credit balances accumulated during the war were to be given multilateral convertibility through the Fund, they would unduly overload the Fund. The United Kingdom delegate put forth the view that this was a matter for bilateral arrangement between the parties and interests concerned. I should like to make it clear that so far as India is concerned public opinion and feeling on this question have not only been unanimous but extremely strong and unless some method is devised to facilitate the solution of what is an extremely important matter for us the ultimate attitude of our country towards the International Monetary Fund which is proposed to be established will be largely influenced by the decision of the Conference on this question. What is our position? Under the various provisions of the Joint Statement relating to foreign exchange resources and reserves of member countries, it appears that although we have four billion dollars worth of sterling balances, we have practically no foreign exchange reserves. I would also like the Committee to appreciate that what we visualise for the future of our country is in full consonance with the primary objectives of the International Monetary Fund, namely, the expansion and balanced growth of international trade and the attainment of a high level of employment and real income. I have heard it said several times at these meetings and it was repeated this morning by the delegate from Brazil, that the settlement of the current balances in international trade was the main if not the only objective of establishing the International Monetary Fund. Well, if that was so, why was the primary objective of economic policy

defined in the Purposes of the Fund as the promotion and maintenance of a high level of employment and real income? We felt enthusiastic about the proposals for the International Monetary Fund as we hoped and believed that through international co-operation we would be enabled to build up our economy to a stage where we should make our own contribution towards the strenthening of the resources of the International Monetary Fund. During the war we have built up, as I have said, large foreign exchange balances in London and if we cannot make any use of them through the machinery of the International Monetary Fund, I cannot comprehend how a country situated as we are can be enthusiastically interested in the establishment and operation of such a Fund. I plead for some constructive reply from the sponsors of this scheme that the machinery will assist us in the solution of this problem. Here you are creating an International Monetary Fund and you are entirely ignoring the existence of huge foreign balances. Are you not thereby creating at the same time a sort of rival to the Fund? Mr. Chairman, I would like the Committee to bear with me for a few moments for a reference on this point to what was stated on the subject in the original United Kingdom proposals for an international clearing union as also in what is known as the White Proposals from the United States of America. The delegate from Egypt has already drawn the attention of this Committee to these original proposals. I would particularly like to read paragraph 34 from the Keynes Proposals :

Paragraph 34 reads as under :—

'The position of abnormal balances in overseas ownership held in various countries at the end of the war presents a problem of considerable importance and special difficulty. A country in which a large volume of such balances is held could not, unless it is in a creditor position, afford the risk of having to redeem them in bancor on a substantial scale, if this would have the effect of depleting its bancor resources at the outset. At the same time, it is very desirable that the countries owning these balances should be able to regard them as liquid, at any rate over and above the amounts which they can afford to lock up under an agreed programme of funding or long-term expenditure. Perhaps there should be some special over-riding provision for dealing with the transitional period only by which, through the aid of the Clearing Union, such balances would remain liquid and convertible into bancor by the creditor country whilst there would be no corresponding strain on the bancor resources of the debtor country, or at any rate, the resulting strain would be spread over a period.'

Dr. Goldenweiser, the delegate from the United States of America, mentioned that this item was excluded from the Joint Statement on the ground that it would unduly overload the Fund. I presume that he said this on the understanding that perhaps at the very outset of the Fund the entire amount of these foreign credit balances would be taken over by the Fund in one lump sum. This is not our case. We plead for the assistance of the Fund spread over a period of years to secure multilateral convertibility of at least a portion of our foreign balances. I say this because with the long-standing relationship between India and the United Kingdom and the traditional commercial ties between the two countries, I take it that a large portion of our sterling balances will ultimately be utilised in obtaining capital goods from the United Kingdom. I appreciate and very greatly sympathise with the difficulties of the United Kingdom now and in the early postwar period owing to the unfortunate loss of valuable foreign investments and, due to other difficulties, it is not likely that the United Kingdom will be in a position to reach a stage of free convertibility for sterling at an early date. On the other hand, our country is pulsating with hopes and aspirations of large scale industrial development to raise the standard of living of four hundred millions of our population. We cannot, therefore, be asked to wait indefinitely till the United Kingdom has reached a stage when sterling would be freely convertible into other currencies. We therefore want conversion at least of a portion of our balances into other foreign currencies.

Statement by Mr. A. D. Shroff, Member of the Indian Delegation, at the meeting of Commission I, on July 10, 1944

Mr. Chairman, at the outset I should like to have your ruling on the matter which would probably facilitate discussion and disposal of this item. In Committee I of Commission I, we discussed on two separate occasions Alternatives G and H. As the result of these discussions, the Indian Delegation has tabled Alternative K, which has not yet been discussed by Committee I. I suggest, Sir, for your consideration that Alternative G, Alternative H and Alternative K may all be discussed together.

I will now place before Commission I Alternative K tabled by our Delegation which reads as follows : To facilitate the multilateral settlement of a reasonable portion of the foreign credit balances accumulated amongst the member countries during the war so as to promote the purposes referred to in Sub-division 2, without placing undue strain on the resources of the Fund.

At the time we discussed Alternatives G and H in Committee I, two principal objections were raised. The delegate from the United States opposed both of these alternatives on the ground that the inclusion of this item will overload the Fund. From the very start when we placed our alternative for consideration before this Conference, we were absolutely clear in our minds and when I spoke at one of the meetings of Committee I, I endeavoured to clear up that misunderstanding that we never intended the International Monetary Fund,

when it was set up, to take over straight away in one lump sum the entire accumulated credit balances during the war. In explaining particularly the situation of India, I also made it clear that considering the very close commercial ties between the two countries, it is more than likely that a very large proportion of the sterling balances we have accumulated in London over a period of years will be used in buying goods of both categories—consumer and capital goods from the United Kingdom. At the same time, I pointed out that if we are going to be realists, we must consider the actual situation in the United Kingdom today and in the post-war period. I refer, for instance, to the unfortunate loss of valuable foreign investments by the United Kingdom and, I may add, the necessity today of rehabilitation of some of the industries of the United Kingdom and the necessity of reducing at least some of the tremendous privations which are being borne by the population of the United Kingdom during the last four and a half years. All these factors will tend to reduce the capacity of the United Kingdom to give us the goods which we badly need. That being so, our position is this: Considering the primary objective of the International Monetary Fund, namely, the facilitation and expansion of international trade and, secondly, a high level of employment and real income—we attach very great importance to the definition of the primary objective—and taking into consideration the inability of the United Kingdom at least for a fairly long period from now onwards to meet the requirements of our capital goods, I submit to this Conference that if a country situated as we are is to be enthusiastic for international collaboration, then some means has to be devised by which multilateral convertibility would be given at least to a certain proportion of the large balances we have accumulated in London. I fail to understand the argument of the United States delegate that the International Monetary Fund would be overloaded if this item was included among the purposes of the Fund. We are here met at the instance of the sponsors of this Conference to tackle a very big problem. I ask, are we realistic enough in tackling this problem without adequate resources in the Fund? There are billions of accumulated balances abroad. As I said in Committee I, are we not simultaneously with the establishment of the Fund creating a sort of rival to the Fund? And I ask whether it would be advisable to ignore the existence of these balances? My answer to the delegation of the United States is that you will not unduly overload the fund if you create machinery for multilateral convertibility for a reasonable portion of these accumulated balances. The resources available to the Fund for tackling the problem are in my judgment inadequate and look rather like sending a jellyfish to tackle a whale. What I ask for is a multilateral settlement of a portion of our balances. If the Conference is prepared to accept the principle of our amendment, then I see no difficulty at all in evolving a concrete formula by which the two purposes set out in our amendment can be met. The purposes set out in our amendment are two; To secure multilateral convertibility for a reasonable portion of our balances and, secondly, to devise a formula so as not to place undue strain on the resources of the Fund. I think, Sir, talking among friends, it may be as well to speak frankly about this question. We have not disguised from the Conference the very strong feeling in our country on this question. I am sure that the sponsors of this Conference are seeking collaboration from all countries of the world known as the United and Associated Nations. It may be that unfortunately situated as we are politically perhaps the 'big guns' in the Conference may not attach great importance to a country like India. But I am bound to point out this, if you are prepared to ignore a country of the size of India, with four hundred million population and with natural resources though not fully developed, yet not incomparable to the natural resources of some of the biggest powers on this earth, we cannot be expected to make our full contribution to the strengthening of the resources of the Fund. Suppose you don't accept our position, you are placing us in a situation which I may compare to the position of a man with a million dollar balance in the bank but not sufficient cash to pay his taxi fare. That is the position you put us in. You want to facilitate the expansion and balanced growth of international trade. You incidentally want to build up a high level of employment and real income throughout the world as a whole. Mr. Morgenthan in his very fine opening address said 'Poverty is a menace wherever it is found'. Do you expect to fulfil the main objectives of this Fund if you allow large countries to be festered with this sort of poverty? I would like this Commission to face this question in a very realistic spirit. I am sure everybody here needs the collaboration of everybody else but if that collaboration has to be obtained realistically, you will make it possible for all countries in the world to be associated with you. I beg of you, Commission, to deal very dispassionately and sympathetically with the problem I put before you. Thank you very much.

Statement on behalf of the United States Delegation at the meeting of Commission I, on July, 10, 1944

We are all cognizant of the importance of the problem of wartime indebtedness so ably presented by the delegate of India. We are confident that the problem can best be settled directly by the countries concerned, however, and we doubt the advisability of attempting this through the International Monetary Fund.

We must be sure that the work of the Fund is not made more difficult by burdening it with tasks which it cannot successfully undertake. Recognition of this fundamental principle led the technical experts to recommend that the International Monetary Fund should not be used for purposes of relief or reconstruction or for meeting indebtedness arising out of the war. The Fund can contribute most effectively to the solution of international monetary problems if it confines its work to the specialised tasks for which it is designed.

While the International Monetary Fund cannot deal directly with indebtedness arising out of the war, we are confident its operations will facilitate the development of an environment of orderly and stable exchanges free from restrictions that hamper world trade—an environment in which the problem of wartime indebtedness can be amicably settled by the countries directly concerned.

The Fund can contribute a good deal in this way to the ultimate solution of the problem of wartime indebtedness. It is all that the Fund can be sure of doing. To ask more is to impose on the Fund the danger of failing to perform the other and more specific tasks for which it is intended and for which it is suited.

The United States Delegation expresses its sympathetic understanding of the importance of this problem to India. The United States Delegation hopes that the alternatives proposed by the Delegate of India will not be pressed. We are confident that the problem of wartime indebtedness can best be settled directly by the countries concerned in a spirit of mutual understanding.

Statement by Lord Keynes on behalf of the Delegation of the United Kingdom at the meeting of Commission I, on July 10, 1944.

Since the United Kingdom is the only country here represented which has incurred large scale war debts to her Allies and Associates also here present, these alternative amendments must be assumed, as Mr. Shroff had indeed made clear, to relate primarily to her.

The various members of this alliance have suffered in mind, body and estate from the effort and exhaustion of war in ways differing in kind and in degree. These sacrifices cannot be weighed one against the other. Those of us who were most directly threatened and were nevertheless able to remain in the fight, such as the Union of Soviet Socialist Republics and the United Kingdom, have fought this war on the principle of unlimited liability and with a more reckless disregard to economic consequences than others who were more fortunately placed. We do not plead guilty to imprudence; for in the larger field of human affairs nothing could have been less prudent than hesitation or a careful counting of the cost.

But as a result there has been inevitably no equality of financial sacrifice. In respect of overseas assets the end of the war will find the United Kingdom greatly impoverished and others of the United Nations considerably enriched at our expense. We make no complaint of this provided that the resulting situation is accepted for what it is. On the contrary, we are grateful to those Allies, particularly to our Indian friends, who put their resources at our disposal without stint and themselves suffered from privation as a result. Our effort would have been gravely, perhaps, critically, embarrassed if they had held back from helping us so wholeheartedly and on so great a scale. We appreciate the moderate, friendly and realistic statement of the problem which Mr. Shroff has put before you today. Nevertheless the settlement of these debts must be, in our clear and settled judgment, a matter between those directly concerned. When the end is reached and we can see our way into the daylight we shall take it up without any delay, to settle honourably what was honourably and generously given.

But we do not intend to ask assistance in this matter from the International Monetary Fund—beyond the fact, as the American Delegation has pointed out, that the existence of the Fund and the general assistance it will give to the stability and expansion of trade may be expected to improve indirectly our ability to meet other obligations. We concur entirely in the view which has just been expressed by the American Delegation that the Fund is not intended to deal directly with war indebtedness.

Since we do not intend either to ask for, or to avail ourselves of, any special treatment from the Fund, it appears to the United Kingdom Delegation that this amendment could be of no practical effects and is therefore better discarded if misunderstanding is to be avoided about the role which the Fund can expect to play.

Statement by Mr. Istel, French Delegate, at the meeting of Commission I, on July 10, 1944.

While the French Delegation sympathizes with India's difficulties, it entirely supports the position taken by the United States and the United Kingdom. Although France and other occupied countries have accumulated huge war balances against Germany, they do not request that the Fund should be concerned with these because it is clear that the Fund should be concerned only with current account movements. The very argument given by India's Delegate as to the time which it will take for India to obtain goods against blocked currencies, shows that the transactions contemplated are not of a current account nature and, therefore, are not in conformity with the purposes of the Fund. We consider that the question raised by India should not be addressed to the Fund but to some other organization.

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